August 27, 2025

To: Objection Reviewing Officer
USDA Forest Service Northern Region
26 Fort Missoula Road
Missoula, MT 59804

Dear Objection Reviewing Officer:

Thank you for considering our Objection against the Draft Decision Notice, FONSI, and Environmental Assessment for the Forest wide Prescribed Fire Project, Forest Service, Helena-Lewis and Clark National Forest (HLCNF).

Identification of Objectors: Lead Objector:
Michael Garrity,
Executive Director,
Alliance for the Wild Rockies (Alliance)

PO Box 505 Helena, MT 59624

Phone 406-410-3373.

And for
Sara Johnson, Director
Native Ecosystems Council
PO Box 125
Willow Creek, MT 59760

And for
Steve Kelly, Director

Council on Wildlife and Fish
P.O. Box 4641
Bozeman, MT 59772

And for

Kristine Akland
Center for Biological Diversity

P.O. Box 7274 Missoula, MT 59807

kakland@biologicaldiversity.org

The Alliance for the Wild Rockies, Native Ecosystems Council, Council on Wildlife and Fish, Center for Biological Diversity will hereafter be referred to as (Alliance).

NOTICE IS HEREBY GIVEN that Alliance objects pursuant to 36 CFR section 218 to the Responsible Official's selection of the Proposed Action including rThe Helena-Lewis and Clark National Forest proposes to authorize prescribed burning, hand treatments, and mechanical treatments of vegetation across the national

forest in areas needing restoration or maintenance outside of designated wilderness or research natural areas (see figure 17, an overview map of the project area). Approximately 33,500 acres of the Beaverhead-Deerlodge National Forest (Elkhorns) is also included. Project activities would include commercial thinning of live small diameter trees under 10 inches diameter-at-breast height, fuel re-arrangement, fireline construction, and prescribed burning. These activities would be accomplished using chainsaws, hand tools, mechanical equipment, or aerial ignitions.

The amount of land treated annually would depend on a variety of factors, including weather conditions, air quality, complexity of prescribed fire operations, resource protection measures, and resources available to accomplish management goals. The proposed action includes about 2,295,000 acres for treatment of the 2,877,580 total project area acres. However, the maximum number of acres that would be burned annually is anticipated to be no greater than 40,000 acres across the project area.

The Alliance is objecting to this project on the grounds that implementation of the Selected Alternative would not be fully in accordance with the laws governing management of the national forests such as Clean Water Act, the ESA, NEPA, NFMA, the Clean Air Act, the Helena - Lewis and Clark Forest Plan and the APA, and will result in additional degradation in already degraded watersheds and mountain slopes, further upsetting the wildlife habitat, ecosystem and human communities. Our objections are detailed below.

As a result of the Draft DN, individuals and members of the above-mentioned groups would be directly and significantly affected by the logging and associated activities. Appellants are conservation organizations working to ensure protection of biological diversity and ecosystem integrity in the Wild Rockies bioregion (including the HLCNF). The individuals and members use the project area for recreation and other forest related activities. The selected alternative would also further degrade the water quality, wildlife and fish habitat. These activities, if implemented, would adversely impact and irreparably harm the natural qualities of the Project Area, the surrounding

area, and would further degrade the watersheds and wildlife habitat.

1. Objectors names and addresses:

Lead Objector: Mike Garrity, Executive Director, Alliance

for the Wild Rockies

P.O. Box 505; Helena, MT 59624

Phone 406 459-5936

Objector Sara Jane Johnson

Director, Native Ecosystems Council,

P.O. Box 125

Willow Creek, MT 59760-0125

Objector Steve Kelly

Director, Council on Wildlife and Fish

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Bozeman, MT 59772

Objector Kristine Akland
Center for Biological Diversity (CBD)

P.O. Box 7274
Missoula, MT 59807

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2. Signature of Lead Objector:

Signed this 27th day of August, 2025 by Lead Objector,

/s/ Michael Garrity

3. Lead Objector: Michael Garrity, Alliance for the

Wild Rockies

4. Name of the Proposed Project, Responsible Official,

National Forest and Ranger District where Project is:

Emily Plat, Supervisor, Helena-Lewis and Clark National Forest is the Responsible Official. The project is Forestwide in all districts within the Helena-Lewis and Clark National Forest: Lincoln, Helena, Townsend, Judith-Musselshell, White Sulphur Springs – Belt Creek, and Rocky Mountain. Supervisor Platt chose the proposed Alternative in the Draft Decision Notice and FONSI.

NOTICE IS HEREBY GIVEN that Alliance object pursuant to 36 CFR section 218 to the Responsible Official's adoption of the Alternative 2. As discussed below, the Forest wide Prescribed Fire Project as proposed violates the National EnvironmentalPolicy Act (NEPA), the National Forest Management Act (NFMA), the Endangered Species Act (ESA), the Lewis and Clark Forest Plan, the

Migratory Bird Treaty Act, and the Administrative Procedure Act (APA).

Location

The project is Forestwide in all districts within the Helena-Lewis and Clark National Forest: Lincoln, Helena, Townsend, Judith-Musselshell, White Sulphur Springs – Belt Creek, and Rocky Mountain.

Counties: Broadwater, Cascade, Chouteau, Fergus, Gallatin, Glacier, Golden Valley, Jefferson, Judith Basin, Lewis and Clark, Meagher, Park, Pondera, Powell, Sweet Grass, Teton, Wheatland.

Project activities would include thinning of live small diameter trees under 10 inches diameter-at-breast height, fuel re-arrangement, fireline construction, and prescribed burning. These activities would be accomplished using chainsaws, hand tools, mechanical equipment, or aerial ignitions.

The amount of land treated annually would depend on a variety of factors, including weather conditions, air quality, complexity of prescribed fire operations, resource

protection measures, and resources available to accomplish management goals. The proposed action includes about 2,295,000 acres for treatment of the 2,877,580 total project area acres. However, the maximum number of acres that would be burned annually is anticipated to be no greater than 40,000 acres across the project area.

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The amount of land treated annually would depend on a variety of factors, including weather conditions, air quality, complexity of prescribed fire operations, resource protection measures, and resources available to accomplish management goals. The proposed action includes about 2,295,000 acres for treatment of the 2,877,580 total project area acres. 5. Specific Issues Related to the Proposed Projects, including how Objectors believes the Environmental Analysis or Draft Decision Notice and

FONSI specifically violates Law, Regulation, or Policy: We included this under number 8 below.

Thank you for the opportunity to object on the Forestwide Prescribed Fire Project. Please accept this objection from me on behalf of the Alliance for the Wild Rockies, Council on Wildlife and Fish, Center for Biological Diversity and Native Ecosystems Council.

6. Suggested Remedies that would Resolve the Objection:

We recommend that the “No Action Alternative” be selected. We have also made specific recommendations after each problem.

7. Supporting Reasons for the Reviewing Office to Consider:

This landscape has very high wildlife values, including for the threatened grizzly bear, lynx, big game species, and wildlife dependent upon unlogged forests. The project area

will be concentrated within some of the best wildlife habitat in this landscape which is an important travel corridor for wildlife such as lynx, grizzly bears, and wolverine. The agency will also be exacerbating an ongoing problem of displacing elk to adjacent private lands in the hunting season due to a lack of security on public lands. The public interest is not being served by this project.

Suggested Remedies to Resolve the Objection:

The agency can choose the No Action Alternative or withdraw the draft decision and EA/FONSI and write an EIS that fully complies with the law.

The HLCNF must also consult with the Fish and Wildlife Service forest wide on and the impact of the project on lynx, grizzly bears, bull trout, white bark pine, monarch butterflies, and wolverines. Without these corrective actions, implementation of the the Forestwide Prescribed Fire Project, Hereafter (Forestwide Burning project), will lead to severe, irretrievable impacts on almost all wildlife species on the Forest. These impacts, if continued across

the HLCNF for other projects, will erode the viability of a huge number of wildlife species across this landscape.

8. Statements that Demonstrates Connection between

Prior Specific Written Comments on the Particular

Proposed Project and the Content of the Objection.

We wrote in our comments:

T***he Alliance for the Wild Rockies, Council on Wildlife and Fish, Center for Biological Diversity, and Native Ecosystems Council (collectively "Alliance") submit the following comments to guide the development of the environmental analysis for the proposal. The Forest Service must complete a full environmental impact statement (EIS) for this Project because the scope of the Project will likely have a significant individual and cumulative impact on the environment. Alliance has reviewed the statutory and regulatory requirements governing National Forest Management projects, as well as the relevant case law, and compiled a check-list of issues that must be included in the EIS for the Project in order for the Forest Service's analysis to comply with the law. Following the list of necessary elements, Alliance has also included a general narrative discussion on possible impacts of the Project, with accompanying citations to the relevant scientific literature. These references should be disclosed and discussed in the EIS for the Project.***

I. NECESSARY ELEMENTS FOR PROJECT EIS: A. Disclose all Helena-Lewis and Clark National Forest Plan requirements for logging/burning projects and explain how the Project complies with them;

B. Disclose the acreages of past, current, and reasonably foreseeable logging, grazing, and road-building activities within the Project area;

C. Solicit and disclose comments from the Montana Department of Fish, Wildlife and Parks regarding the impact of the Project on wildlife habitat;

D. Solicit and disclose comments from the Montana Department of Environmental Quality regarding the impact of the Project on water quality;

E. Disclose the biological assessment for the candidate, threatened, or endangered species with potential and/or actual habitat in the Project area;

F. Disclose the biological evaluation for the sensitive and management indicator species with potential and/or actual habitat in the Project area;

G. Disclose the snag densities in the Project area, and the method used to determine those densities;

H. Disclose the current, during-project, and post-project road densities in the Project area;

I. Disclose the Helena-Lewis and Clark National Forest's record of compliance with state best management practices regarding stream sedimentation from ground-disturbing management activities;

J. Disclose the Helena-Lewis and Clark National Forest's record of compliance with its monitoring requirements as set forth in its Forest Plan;

K. Disclose the Helena-Lewis and Clark National Forest's record of compliance with the additional monitoring requirements set forth in previous DN/FONSIs and RODs on the Helena-Lewis and Clark National Forest;

L. Disclose the results of the field surveys for threatened, endangered, sensitive, and rare plants in each of the proposed units;

M. Disclose the level of current noxious weed infestations in the Project area and the cause of those infestations;

N. Disclose the impact of the Project on noxious weed infestations and native plant communities;

O. Disclose the amount of detrimental soil disturbance that currently exists in each project area from previous cutting, burning and grazing activities;

P. Disclose the expected amount of detrimental soil disturbance in each unit after ground disturbance and prior to any proposed mitigation/remediation;

Q. Disclose the expected amount of detrimental soil disturbance in each unit after proposed mitigation/ remediation;

R. Disclose the analytical data that supports proposed soil mitigation/remediation measures;

S. Disclose the timeline for implementation;

T. Disclose the funding source for non-commercial activities proposed;

U. Disclose the current level of old growth forest in each third order drainage in the Project area;

V. Disclose the method used to quantify old growth forest acreages and its rate of error based upon field review of its predictions;

W. Disclose the historic levels of mature and old growth juniper in the Project area;

X. Disclose the level of mature and old growth juniper necessary to sustain viable populations of dependent wildlife species in the area;

Y. Disclose the amount of mature and old growth juniper that will remain after implementation;

Z. Disclose the amount of current habitat for juniper-sagebrush dependent species in the Project area;

AA. Disclose the amount of big game (moose and elk) hiding cover, winter range, and security during Project implementation;

BB. Disclose the amount of big game (moose and elk) hiding cover, winter range, and security after implementation;

CC. Disclose the method used to determine big game hiding cover, winter range, and security, and its rate of error as determined by field review;

DD. Disclose and address the concerns expressed by the ID Team in the draft Five-Year Review of the Forest Plan regarding the failure to monitor population trends of MIS, the inadequacy of the Forest Plan old growth juniper standard, and the failure to compile data to establish a reliable inventory of sensitive species on the Forest;

EE. Disclose the actions being taken to reduce fuels on private lands adjacent to the Project area and how those activities/or lack thereof will impact the efficacy of the activities proposed for this Project;

FF. Disclose the efficacy of the proposed activities at reducing wildfire risk and severity in the Project area in the future, including a two-year, five-year, ten-year, and 20- year projection;

GG. Disclose when and how the Helena-Lewis and Clark National Forest made the decision to suppress natural wildfire in the Project area and replace natural fire with logging and prescribed burning;

HH. Disclose the cumulative impacts on the Forest-wide level of the Helena-Lewis and Clark's policy decision to replace natural fire with logging and prescribed burning;

II. Disclose how Project complies with the Roadless Rule;

JJ. Disclose the impact of climate change on the efficacy of the proposed treatments;

KK. Disclose the impact of the proposed project on the carbon storage potential of the area;

LL. Disclose the baseline condition, and expected sedimentation during and after activities, for all streams in the area;

MM. Please disclose how this project will enhance wildlife habitat;

NN. Please disclose how this project will degrade wildlife habitat;

OO. Please explain the cumulative impacts of this proposed project;

PP. Please disclose Maps of the Wildland Urban Interface for the project area and an explanation of how the Wildland Urban Interface was defined and mapped;

QQ. Disclose maps of the area that show the following elements:

1. Past, current, and reasonably foreseeable logging and

burning units in the Project area;

2. Past, current, and reasonably foreseeable grazing allotments in the Project area;

3. Density of human residences within 1.5 miles from the Project unit boundaries;

4. Hiding cover in the Project area according to the Forest Plan definition;

5. Old growth forest in the Project area;
6. Big game security areas;

7. Moose winter range;

Page 4 of the EA states: "The proposed action includes 2,305,040 acres for treatment of the 2,627,936 total project area acres. The maximum number of acres that would be burned annually is anticipated to be no greater than 20,000 acres across the project area. While management activities could occur at any time of year, they would most likely occur in the spring and fall. Management may occur within riparian areas associated with this proposal."

The EA states that 2,305,040 acres will be treated. If the Forest Service know how many acres they will burn and

log, they should be able to tell the public where the burning will occur?

The Forest Service responded:

Concern Summary: Several commenters suggested that the proposal was too broad or lacked specific locations or survey data necessary to do environmental analysis. To address this concern, the Helena-Lewis and Clark added more detail to the proposed action and in the introduction to clarify the intent and desired outcomes for this project. We added a monitoring and public engagement section to the proposed action to demonstrate our commitment to continued public engagement and learning, and we added multiple appendices to further clarify the intent and outcomes of this project.

The agency will violate the NEPA, NFMA, the APA and the ESA by not taking a hard look at the project including telling the public where, when and how they will burn and without doing any monitoring to see the results of management activities.. The project authorizes burning and logging of trees 10 inches dbh and smaller throughout the HLCNF except in designated wilderness for an undefined number of years. The draft decision authorizes unlimited logging of trees 10 inches duh and smaller and burning but explains little. It is the opposite of NEPA look before you leap purpose.

It is violating NFMA because the DDN, FONSI and EA do not demonstrate that the project is complying with the Forest Plan. NFMA requires all site specific project comply with the Forest Plan. There is no explanation of how unlimited logging of trees 10 inches dbh and burning will leave enough cover for big game and habitat for other wildlife including birds.

The Project violates the Forest Plan. The Project EA does not demonstrate that the Forest Service is currently complying with the desired condition of old growth the only way to determine whether there is wide distribution that contributes to connectivity is with a map. For all of these reasons, the Forest Service is violating the Revised Forest Plan, in violation of NFMA, NEPA, and the APA.

The Project EA violates NEPA. The Project EA fails to take a hard look at whether old growth complies the Forest Plan, and is widely distributed and contributes to connectivity across the Forest and in every Geographic Area. There are no Forest-wide or Geographic Area-wide disclosures of percentages of existing old growth, or maps showing distribution and connectivity of old growth at these scales. Thus, the Project EA fails to take a hard look and fully and fairly inform the public and agency as to whether the Project is consistent with the text, purpose, and intent of Forest Plan Desired Condition FW-VEGF-DC-05, and fails to take a hard look at the ways that the Project could help to restore and achieve wide distribution and connectivity of old growth habitat as envisioned by the Forest Plan.

Furthermore, under Kern v. BLM, the Project EA must include the cumulative effects analysis on old growth dependent wildlife species that is missing from the Revised Forest Plan EIS. Without this analysis at the Project EA level, the Project analysis unlawfully tiers to the Revised Forest Plan EIS. As discussed below, the Revised Forest Plan EIS fails to provide any meaningful cumulative effects analysis as to how the removal of enforceable minimum standards for old growth retention, and the allowance of commercial logging in old growth forest stands across the Forest, will cumulatively degrade habitat for old growth dependent wildlife species and prevent the Forest from maintaining viable populations of this rare, native terrestrial wildlife community.

Third, alternatively or in addition, the Revised Forest Plan violates the 2012 NFMA Planning Rule and/or NEPA. The old growth provisions in the Revised Forest Plan, which fail to set enforceable numeric minimum percentages of old growth retention for the Forest, and at the same time allow significant commercial logging in old growth while still labeling it as "old growth" post-logging, lack ecological integrity, including lacking appropriate elements to ensure function and connectivity of old growth forest for the rare terrestrial wildlife community of old growth dependent wildlife species, and therefore the Revised Forest Plan violates the NFMA planning regulations, NFMA, and the APA.

Furthermore, there is no adequate cumulative effects analysis in the Revised Forest Plan EIS regarding the

impact on old growth dependent wildlife species across the Forest from this new, piecemeal, project-by-project, death by a thousand cuts approach to old growth forest management. Without a Forest-wide cumulative effects analysis of how old growth logging will impact old-growth dependent wildlife species, the Forest Service cannot demonstrate that its Forest Plan complies with NEPA or the NFMA planning rule mandate that the Forest Plan maintains or restore the "rare terrestrial animal community" of old growth dependent wildlife species.

If the project will reduce hiding cover below the minimum recommended level of 40%, then the project will have significant adverse impacts on elk, which would require completion of an Environmental Impact Statement (EIS).

The failure to complete any surveys for any wildlife species except for the presence/absence of the Flammulated Owl is apparently justified by the large size of the project. Treatment of alproject area would require a massive survey effort to detect nest and roost sites of focal species. It would also require a massive effort to survey for neotropical migratory birds, which includes the Northern Goshawk and Great Gray Owl. The fact that large projects prevents any valid reliable surveys for wildlife means that these project will automatically have significant adverse impacts of a host of wildlife species, requiring an EIS.

A key requirement of the scoping process is to: "(1) Determine the scope (§1508.25) and the significant issues

to be analyzed in depth in the environmental impact statement."

The Forest Service has skipped this step and gone right to asking the public to comment on Draft Decision Notice, FONSI, and the Final EA.

We believe because of the size of the project and the cumulative effects of past current and future logging and burning by the Forest Service and private logging in the area the Forest Service must complete a full environmental impact statement (EIS) for this Project. The scope of the Project will likely have a significant individual and cumulative impact on the environment. Alliance has reviewed the statutory and regulatory requirements governing National Forest Management projects, as well as the relevant case law, and compiled a checklist of issues that must be included in the EIS for he Project in order for the Forest Service's analysis to comply with the law. Following the list of necessary elements, Alliance has also included a general narrative discussion on possible impacts of the Project, with accompanying citations to the relevant scientific literature. These references should be disclosed and discussed in the EIS for an EA if you refuse to write an EA for the Project.

Will this project leave enough snags to follow the Forest Plan requirements and the requirements of sensitive old growth species such as flammulated owls and goshawks? Please survey the project area for old growth forests before

the EA or EIS is finalized so the public has a chance to comment on it. Waiting until the NEPA process is over is a violation of NEPA, NFMA, and the APA.

We are interested in old growth management in this landscape. Please provide the inventory results for old growth of all cover types as per Green et al. (1991), including lodgepole pine and whitebark pine old growth, along with a map of such. If any of these old growth stands are going to be treated, please provide the supporting documentation that habitat values for over 20 species of birds associated with old growth forests will not be altered. How do old growth levels in the project area compare to historical levels, since the agency claims moving towards the historic range of variation is a purpose of this project. What is the historic levels of old growth, and how will this project move towards that level?

REMEDY
Choose the No Action Alternative or withdraw the DDN and FONSi and write an EIS that fully complies with the law.

We wrote in our comments:

Page 9 of the Fisheries Biological Evaluation states:

Cumulative Effects Boundaries

The scale of analysis for aquatic species cumulative effects is the administrative boundary for the Helena-Lewis and Clark National Forest. Site-specific locations of treatment sites won't be determined until a later date.

This is a violation of NEPA's hard look requirement and also a violation of NFMA, APA and the ESA.

Page 8 of the Fisheries BE states:

Bull Trout Multi-Indicator Analysis

Effects to multiple indicators applicable to all aquatic analysis species will be estimated using a bull trout analysis process, with a focus on sediment-related effects.

The bull trout analysis process should have been done before the draft EA was written so the public could comment on it especially since Table 4 on page 14 of the Fisheries BE shows that bill trout water in the Upper Blackfoot are with functioning at risk or at an impaired function.

The EIS must fully and completely analyze the impacts to bull trout critical habitat and westslope cutthroat trout habitat. What is the standard for sediment in the Forest Plan? Sediment is one of the key factors impacting water quality and fish habitat. [See USFWS 2010]

The introduction of sediment in excess of natural amounts can have multiple adverse effects on bull trout

and their habitat (Rhodes et al. 1994, pp. 16-21; Berry, Rubinstein, Melzian, and Hill 2003, p. 7). The effect of sediment beyond natural background conditions can be fatal at high levels. Embryo survival and subsequent fry emergence
success have been highly correlated to percentage of fine material within the stream-bed (Shepard et al. 1984, pp. 146, 152). Low levels of sediment may result in sublethal and behavioral effects such as increased activity, stress, and emigration rates; loss or reduction of foraging capability; reduced growth and resistance to disease; physical abrasion; clogging of gills; and interference with orientation in homing and migration (McLeay et al. 1987a, p. 671; Newcombe and MacDonald 1991, pp. 72, 76, 77; Barrett, Grossman, and Rosenfeld 1992, p. 437; Lake and Hinch 1999, p. 865; Bash et al. 2001n, p. 9; Watts et al. 2003, p. 551; Vondracek et al. 2003, p. 1005; Berry, Rubinstein, Melzian, and Hill 2003, p. 33). The effects of increased suspended sediments can cause changes in the abundance and/or type of food organisms, alterations in fish habitat, and long-term impacts to fish populations (Anderson et al. 1996, pp. 1, 9, 12, 14, 15; Reid and Anderson 1999, pp. 1, 7-15). No threshold has been determined in which fine sediment addition to a stream is harmless (Suttle et al. 2004, p. 973). Even at low concentrations, fine-sediment deposition can decrease growth and survival of juvenile salmonids.

Aquatic systems are complex interactive systems, and isolating the effects of sediment to fish is difficult (Castro and Reckendorf 1995d, pp. 2-3). The effects of sediment on receiving water ecosystems are complex and multi-dimensional, and further compounded by the fact that sediment flux is a natural and vital process for aquatic systems (Berry, Rubinstein, Melzian, and Hill 2003, p. 4). Environmental factors that affect the magnitude of sediment impacts on salmonids include duration of exposure, frequency of exposure, toxicity, temperature, life stage of fish, angularity and size of particle, severity/magnitude of pulse, time of occurrence, general condition of biota, and availability of and access to refugia (Bash et al. 2001m, p. 11). Potential impacts caused by excessive suspended sediments are varied and complex and are often masked by other concurrent activities (Newcombe 2003, p. 530). The difficulty in determining which environmental variables act as limiting factors has made it difficult to establish the specific effects of sediment impacts on fish (Chapman 1988, p. 2). For example, excess fines in spawning gravels may not lead to smaller populations of adults if the amount of juvenile winter habitat limits the number of juveniles that reach adulthood. Often there are multiple independent variables with complex inter-relationships that can influence population size.

The ecological dominance of a given species is often determined by environmental variables. A chronic input

of sediment could tip the ecological balance in favor of one species in mixed salmonid populations or in species communities composed of salmonids and nonsalmonids (Everest et al. 1987, p. 120). Bull trout have more spatially restrictive biological requirements at the individual and population levels than other salmonids (USFWS (U.S. Fish and Wildlife Service) 1998, p. 5). Therefore, they are especially vulnerable to environmental changes such as sediment deposition.

Aquatic Impacts

• Classify and analyze the level of impacts to bull trout and westslope cutthroat trout in streams, rivers and lakes from sediment and other habitat alterations:

Lethal: Direct mortality to any life stage, reduction in egg-to-fry survival, and loss of spawning or rearing habitat. These effects damage the capacity of the bull trout to produce fish
and sustain populations.

Sublethal: Reduction in feeding and growth rates, decrease in habitat quality, reduced tolerance to disease and toxicants, respiratory impairment, and physiological stress. While not leading to immediate death, may produce mortalities and population decline over time.

Behavioral: Avoidance and distribution, homing and migration, and foraging and predation. Behavioral effects change the activity patterns or alter the kinds of activity usually associated with an unperturbed environment.

Behavior effects may lead to immediate death or population decline or mortality over time.

Direct effects:
Gill Trauma - High levels of suspended sediment and turbidity can result in direct mortality of fish by damaging and clogging gills (Curry and MacNeill 2004, p. 140).

Spawning, redds, eggs - The effects of suspended sediment, deposited in a redd and potentially reducing water flow and smothering eggs or alevins or impeding fry emergence, are related to sediment particle sizes of the spawning habitat (Bjornn and Reiser 1991, p. 98).

Indirect effects:
Macroinvertebrates - Sedimentation can have an effect on bull trout and fish populations through impacts or alterations to the macroinvertebrate communities or populations (Anderson, Taylor, and Balch 1996, pp. 14-15).

Feeding behavior - Increased turbidity and suspended sediment can affect a number of factors related to feeding for salmonids, including feeding rates, reaction distance, prey selection, and prey abundance (Barrett, Grossman, and Rosenfeld 1992, pp. 437, 440; Henley, Patterson, Neves, and Lemly 2000, p. 133; Bash et al. 2001d, p. 21).

Habitat effects - All life history stages are associated with complex forms of cover including large woody debris, undercut banks, boulders, and pools. Other habitat characteristic important to bull trout include channel and hydrologic stability, substrate composition, temperature, and the presence of migration corridors (Rieman and McIntyre 1993, p. 5).

Physiological effects - Sublethal levels of suspended sediment may cause undue physiological stress on fish, which may reduce the ability of the fish to perform vital functions (Cederholm and Reid 1987, p. 388, 390).

Behavioral effects - These behavioral changes include avoidance of habitat, reduction in feeding, increased activity, redistribution and migration to other habitats and locations, disruption of territoriality, and altered homing (Anderson, Taylor, and Balch 1996, p. 6; Bash et al. 2001t, pp. 19-25; Suttle, Power, Levine, and McNeely 2004, p. 971).

• How will this project affect native fish? What is the current condition in the riparian areas?
How will this project protect rather than adversely impact fish habitat and water quality? No logging or road building should be done in riparian areas. There should not be any stream crossings. Roads should be decommissioned and removed, not upgraded and rebuilt.

• Hauer, et al. (1999) found that bull trout streams in wilderness habitats had consistent ratios of large to small and attached to unattached large woody debris. However, bull trout streams in watersheds with logging activity had substantial variation in these ratios. They identified logging as creating the most substantive change in stream habitats.

"***The implications of this study for forest managers are twofold: (i) with riparian logging comes increased unpredictability in the frequency of size, attachment, and stability of the LWD and (ii) maintaining the appropriate ratios of size frequency, orientation, and bank attachment, as well as rate of delivery, storage, and transport of LWD to streams, is essential to maintaining historic LWD characteristics and dynamics. Our data suggest that exclusion of logging from riparian zones may be necessary to maintain natural stream morphology and habitat features. Likewise, careful upland management is also necessary to prevent cumulative effects that result in altered water flow regimes and sediment delivery regimes. While not specifically evaluated in this study, in general, it appears that patterns of upland logging space and time may have cumulative effects that could additionally alter the balance of LWD delivery, storage, and transport in fluvial systems.***

These issues will be critical for forest managers attempting to prevent future detrimental environmental change or setting restoration goals for degraded bull trout spawning streams."

Muhlfeld, et al. (2009) evaluated the association of local habitat features (width, gradient, and elevation), watershed characteristics (mean and maximum summer water temperatures, the number of road crossings, and road density), and biotic factors (the distance to the source of hybridization and trout density) with the spread of hybridization between native westslope cutthroat trout Oncorhynchus clarkii lewisi and introduced rainbow trout O. mykiss in the upper Flathead River system in Montana and British Columbia.

They found that hybridization was positively associated with mean summer water temperature and the number of upstream road crossings and negatively associated with the distance to the main source of hybridization. Their results suggest that hybridization is more likely to occur and spread in streams with warm water temperatures, increased land use disturbance, and proximity to the main source of hybridization.

The EIS must use the best available science to analyze how logging riparian habitat will impact native fish and water quality.

The following article from the 9/25/15 Missoulian disagrees with the Forest Service and says it is habitat destruction causing bull trout declines.

http://missoulian.com/news/local/montana-fwp-biologist-despite-successes-bull-trout-populations-still-in/article_2798e4c6-0658-522f-be4c-4274f903129e.html

Montana FWP biologist: Despite successes, bull trout populations still in peril Ladd Knotek is disturbed by the lack of attention being paid to the many western Montana streams where bull trout populations are struggling to survive.

The fisheries biologist with Montana Fish, Wildlife and Parks knows people love to latch on to the success stories from streams like Fish Creek and several Blackfoot tributaries, where bull trout populations are viable.

"***But what nobody talks about is all these other populations that, 50 years ago, these were all viable populations,"*** ***he said Tuesday as part of a presentation on bull trout in Rattlesnake Creek. "You know, Gold Creek, Belmont Creek, Trout Creek, there's a whole list of them. There's a whole bunch of them that are just basically on the verge of disappearing. And what we like to talk about are the ones that are doing OK. But in places like Lolo Creek and some Bitterroot tributaries, bull trout there are just barely hanging on."***

Bull trout have faced a long, slow decline over the past century, to the point where they are now listed as a threatened species under the Endangered Species Act. Success is a relative term even in the places where they are doing well.

"*They're nowhere near what they were historically," Knotek said of the tributaries where the populations are relatively healthy. "But they have a fair number of adult spawners coming in. People see them in the fishery. But we need to start looking at all these other tributaries that used to be bull trout spawning tributaries and recognize what's going on in the bigger picture. We're just looking at a very thin slice instead of looking at the whole thing. A lot of this stuff is just symptoms of what's going on at the larger scale. Bull trout are the canary. They're very susceptible to environmental change, whether it's temperature, whether it's physical, whether it's sediment. There's something going on in these drainages and the symptoms we're seeing are the bull trout distribution is shrinking, we're losing populations and we're seeing expansion of nonnatives."*

Bull trout – which are native to the Columbia River Basin and are only found west of the Continental Divide in Montana – need clear, cold mountain waters to spawn and require clean gravel beds, deep pools, complex cover, good in-stream flows in the fall and large systems of in-

terconnected waterways for their migrations. Rising temperatures and falling water levels trigger their migration to spawning tributaries in June, and they hang out until they spawn in the fall. They are much more susceptible to warming temperatures and habitat change than nonnative species such as brown and rainbow trout.

Knotek was the featured presenter Friday for a discussion on restoration efforts and the importance of Rattlesnake Creek as a bull trout habitat. The event was organized by the Clark Fork Coalition, a nonprofit in Missoula that aims to protect water quality for the 22,000-square-mile Clark Fork River Basin.

Knotek explained that because Rattlesnake Creek is south-facing and doesn't have much groundwater recharging, it has much less of a buffer against a warming climate than other streams.

"The water temperatures are significantly higher than they were 10 years ago," he said. "The types of temperatures we're seeing in late summer and early fall, we never saw those 10 to 15 years ago. Water temperature is driving a lot of what we're talking about. It's definitely stressful on fish. It doesn't spell good news for bull trout."

Knotek said it's a common misconception that brown trout and rainbows are driving out bull trout, and he explained

that those nonnative species are simply moving in because the native species is dying off.

"It's replacement rather than displacement," he said.

In Rattlesnake Creek, biologists have conducted redd counts of the migratory population in the lower reaches since 1999. There is a healthy resident population in the upper reaches, but researchers are more interested in the fish that actually migrate to the Clark Fork River.

The results have been disturbing.

They found a high of 36 in 2006 and 24 in 2008, before Milltown Dam was removed. There was an expected drop to just four redds – spawning beds – after the dam was removed in 2009, because of the massive disturbance. However, the number of redds has not bounced back since, and researchers found just six last year.

"That tells us that it wasn't just the dam removal that caused it, because they should be recovering by now," Knotek said. "And there are lots of populations like this stream that are not doing well but need more attention. We've got a problem here, but it's not inconsistent with other tributaries. There's something bigger going on."

Knotek said that Rattlesnake Creek was historically

braided before the area was developed, and that eliminated a lot of the back channels the juvenile fish need to grow.

"You need complexity," he said. "When you have a straight ditch in a system that used to be braided, it ain't good."

He's also seen much more algae growth in the upper sections, something that is obviously related to higher temperatures and added nutrients.

"We have browns and rainbows progressing upstream, and we attribute that to water temperature," he said. "That's consistent with other streams, too. It's very obvious something is going on here."

Knotek believes that a "ramping up" of current conservation work is the only thing that can save bull trout populations. Fish screens, the removal of dams, awareness of anglers and water conservation – especially by people using stream irrigation to water their lawns – is crucial.

"Bull trout are the canary," he said. "But there are a lot of other species that we could be looking at as indicators as well. A lot of research needs to be done. There's a lot of species being affected."

As Knoteck pointed out, bull trout need clear, cold mountain waters to spawn and require clean gravel beds, deep pools, complex cover, good in-stream flows in the fall and large systems of interconnected waterways for their migrations.

The project is in violation of the Cleanwater Act, NFMA, NEPA, the ESA, the Forest Plan and the APA because it the project is not working to recover bull trout and bull trout critical habitat. Sediment and stream degradation from the on going grazing is not addresses and the project will put more sediment into bull trout habitat.

Critical habitat receives protection under section 7 of the Endangered Species Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. There is no exception for the short run.

The EA does not characterize or evaluate the project area watersheds based on the Watershed Condition Framework or the baseline condition developed for bull trout. We do not know what the current condition of streams are in the project area, i.e., are they functioning acceptably, at risk or at unacceptable risk? And for what ecosystem parameters? How will this project affect stream function, i.e., degrade, maintain, restore?

- ***The project relies on BMPs to protect water quality and fish habitat. First, there is no evidence that application of BMPs actually protects fish habitat and water quality.***
- ***Second, BMPs are only maintained on a small percentage of roads or when there is a logging project.***

BMPs fail to protect and improve water quality because of the allowance for "naturally occurring degradation." In Montana, "naturally-occurring degradation" is defined in ARM 16.20.603(11)
as that which occurs after application of "all reasonable land, soil and water conservation practices have been applied." In other words, damage caused directly by sediment (and other pollution) is acceptable as long as BMPs are applied. The result is a never-ending, downward spiral for water quality and native fish.
Here's how it works:
• Timber sale #1 generates sediment damage to a bull trout stream, which is "acceptable" as long as BMPs are applied to project activities.
• "Natural" is then redefined as the stream condition after sediment damage caused by Timber Sale #1.
• Timber sale #2 – in the same watershed – sediment damage would be acceptable if BMPs are applied again – same as was done before.
• "Natural" is again redefined as the stream condition after sediment damage caused by Timber Sale#2.

The downward spiral continues with disastrous cumulative effects on bull trout, westslope cutthroat trout and most aquatic life. BMPs are not "reasonable." Clearly, beneficial uses are not being protected. In

Montana, state water quality policy is not being followed. § 75-5-101 et seq. and ARM 16.20.701 et seq.
• The EA does not include an analysis of climate change and how that will impact the project.
• The Purpose and Need for this project is solely to prop up the timber industry at the expense of wildlife, fish and water quality. This project is a money-loser, the logging portion should be dropped and the road decommissioning in Alternative 4 should be implemented.

The U.S. Fish and Wildlife Service found that bull trout are exceptionally sensitive to the direct, indirect, and cumulative effects of roads. Dunham and Rieman demonstrated that disturbance from roads was associated with reduced bull trout occurrence. They concluded that conservation of bull trout should involve protection of larger, less fragmented, and less disturbed (lower road density) habitats to maintain important strongholds and sources for naturally recolonizing areas where populations have been lost. (USFS 2000, page 3-82.

Hitt and Frissell showed that over 65% of waters that were rated as having high aquatic biological integrity were found within wilderness-containing subwatersheds.

Trombulak and Frissell concluded that the presence of roads in an area is associated with negative effects for both terrestrial and aquatic ecosystems including changes in species composition and population size. (USFS 2000, pages 3-80-81).

"High integrity [forests] contain the greatest proportion of high forest, aquatic, and hydrologic integrity of all are dominated by wilderness and roadless areas [and] are the least altered by management. Low integrity [forests have] likely been altered by past management are extensively roaded and have little wilderness." (USFS 1996a,

pages 108, 115 and 116).

"Much of this [overly dense forest] condition occurs in areas of high road density where the large, shade-intolerant, insect-, disease- and fire-resistant species have been harvested over the past 20 to 30 years. Fires in unroaded areas are not as severe as in the roaded areas because of less surface fuel, and after fires at least some

of the large trees survive to produce seed that regenerates the area. Many of the fires in the unroaded areas produce a forest structure that is consistent with the fire regime, while the fires in the roaded areas commonly produce a forest structure that is not in sync with the fire regime. In general, the effects of wildfires in these areas are much lower and do not result in the chronic sediment delivery hazards exhibited in areas that have been roaded." (USFS 1997a, pages 281-282).

"Increasing road density is correlated with declining aquatic habitat conditions and aquatic integrity An intensive review of the literature concludes that increases in sedimentation [of streams] are unavoidable even using the most cautious roading methods." (USFS 1996b, page 105).

"This study suggests the general trend for the entire Columbia River basin is toward a loss in pool habitat on managed lands and stable or improving conditions on unmanaged lands." (McIntosh et al 1994).

"The data suggest that unmanaged systems may be more structurally intact (i.e., coarse woody debris, habitat

diversity, riparian vegetation), allowing a positive interaction with the stream processes (i.e., peak flows, sediment routing) that shape and maintain high-quality fish habitat over time." (McIntosh et al 1994).

"Although precise, quantifiable relationships between long-term trends in fish abundance and land-use practices are difficult to obtain (Bisson et al. 1992), the body of literature concludes that land-use practices cause the simplification of fish habitat." (McIntosh et al 1994).

"Land management activities that contributed to the forest health problem (i.e., selective harvest and fire suppression) have had an equal or greater effect on aquatic ecosystems.

If we are to restore and maintain high quality fish habitat, then protecting and restoring aquatic and terrestrial ecosystems is essential." (McIntosh et al 1994).

"Native fishes are most typically extirpated from waters that have been heavily modified by human activity, where native fish assemblages have already been depleted, disrupted, or stressed []." (Moyle et al 1996).

"Restoration should be focused where minimal investment can maintain the greatest area of high-quality habitat and diverse aquatic biota. Few completely roadless, large watersheds remain in the Pacific Northwest, but those that continue relatively undisturbed are critical in sustaining sensitive native species and important ecosystem processes (Sedell, et. al 1990; Moyle and Sato 1991; Williams 1991; McIntosh et al. 1994;

Frissell and Bayles 1996). With few exceptions, even the least disturbed basins have a road network and history of logging or other human disturbance that greatly magnifies the risk of deteriorating riverine habitats in the watershed." (Frissell undated). Also please see the attached comments by Frissell on the bull trout recovery plan.

"[A]llocate all unroaded areas greater than 1,000 acres as Strongholds for the production of clean water, aquatic and riparian-dependent species. Many unroaded areas are isolated, relatively small, and most are not protected from road construction and subsequent timber harvest, even in steep areas. Thus, immediate protection through allocation of the unroaded areas to the production of

clean water, aquatic and riparian-dependent resources is necessary to prevent degradation of this high quality habitat and should not be postponed." (USFWS et al 1995).

"Because of fire suppression, timber harvest, roads, and white pine blister rust, the moist forest PVG has experienced great changes since settlement of the project area by Euroamericans. Vast amounts of old forest have converted to mid seral stages."(USFS/BLM 2000, page 4-58).

"Old forests have declined substantially in the dry forest PVG []. In general, forests showing the most change are those that have been roaded and harvested. Large trees, snags, and coarse woody debris are all below historical levels in these areas."

(USFS/BLM 2000, page 4-65).

"High road densities and their locations within watersheds are typically correlated with areas of higher watershed sensitivity to erosion and sediment transport to streams. Road density also is correlated with the distribution and spread of exotic annual grasses, noxious

weeds, and other exotic plants. Furthermore, high road densities are correlated with areas that have few large snags and few large trees that are resistant to both fire and infestation of insects and disease. Lastly, high road densities are correlated with areas that have relatively high risk of fire occurrence (from human caused fires), high hazard ground fuels, and high tree mortality." (USFS 1996b, page 85, parenthesis in original).

In simpler terms, the Forest Service has found that there is no way to build an environmentally benign road and that roads and logging have caused greater damage to forest ecosystems than has the suppression of wildfire alone. These findings indicate that roadless areas in general will take adequate care of themselves if left alone and unmanaged, and that concerted reductions in road densities in already roaded areas are absolutely necessary.

Indeed, other studies conducted by the Forest Service indicate that efforts to "manage" our way out of the problem are likely to make things worse. By "expanding our efforts in timber harvests to minimize the risks of large fire, we risk expanding what are well established negative effects on streams and native salmonids. The

perpetuation or expansion of existing road networks and other activities might well erode the ability of [fish] populations to respond to the effects of large scale storms and other disturbances that we clearly cannot change." (Reiman et al 1997).

The following quotes demonstrate that trying to restore lower severity fire regimes and forests through logging and other management activities may make the situation worse, compared to allowing nature to reestablish its own equilibrium. These statements are found in "An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins, Volume 3 (ICBEMP):

"*Since past timber harvest activities have contributed to degradation in aquatic ecosystems, emphasis on timber harvest and thinning to restore more natural forests and fire regimes represent risks of extending the problems of the past." (ICBEMP page 1340).*

"*Proposed efforts to reduce fuel loads and stand densities often involve mechanical treatment and the use of prescribed fire. Such activities are not without their own*

drawbacks -- long-term negative effects of timber harvest activities on aquatic ecosystems are well documented (see this chapter; Henjum and others 1994; Meehan 1991; Salo and Cundy 1987).” (ICBEMP page 1340).

“***Species like bull trout that are associated with cold, high elevation forests have probably persisted in landscapes that were strongly influenced by low frequency, high severity fire regimes. In an evolutionary sense, many native fishes are likely well acquainted with large, stand-replacing fires.” (ICBEMP page 1341).***

“***Attempts to minimize the risk of large fires by expanding timber harvest risks expanding the well-established negative effects on aquatic systems as well. The perpetuation or expansion of existing road networks and other activities might well erode the ability of populations to respond to the effects of fire and large storms and other disturbances that we cannot predict or control (National Research Council 1996). (ICBEMP page 1342).***

“***Watersheds that support healthy populations may be at greater risk through disruption of watershed processes and degradation of habitats caused by intensive***

management than through the effects of fire." (ICBMP page 1342).

"Timber harvest, through its effects on forest structure, local microclimate, and fuels accumulation, has increased fire severity more than any other recent human activity. If not accompanied by adequate reduction of fuels, logging (including salvage of dead and dying trees) increases fire hazard by increasing surface dead fuels and changing the local microclimate. Fire intensity and expected fire spread rates thus increase locally and in areas adjacent to harvest". (USFS 1996c, pages 4-61-72).

"Logged areas generally showed a strong association with increased rate of spread and flame length, thereby suggesting that tree harvesting could affect the potential fire behavior within landscapes...As a by-product of clearcutting, thinning, and other tree-removal activities, activity fuels create both short- and long-term fire hazards to ecosystems. Even though these hazards diminish over time, their influence on fire behavior can linger for up to 30 years in dry forest ecosystems of eastern Oregon and Washington". (Huff et al 1995).

The answer, therefore, is not to try managing our way out of this situation with more roads and timber harvest/ management. In summary:

• Roads have adverse effects on aquatic ecosystems. They facilitate timber sales which can reduce riparian cover, increase water temperatures, decrease recruitment of coarse woody debris, and disrupt the hydrologic regime of watersheds by changing the timing and quantity of runoff. Roads themselves disrupt hydrologic processes by intercepting and diverting flow and contributing fine sediment into the stream channels which clogs spawning gravels. High water temperatures and fine sediment degrade native fish spawning habitat.

According to the U.S. Forest Service 82% of all bull trout populations and stream segments range-wide are threatened by degraded habitat conditions. Roads and forest management are a major factor in the decline of native fish species on public lands in the Northern Rockies and Pacific Northwest.

The EA provides little additional information on where burnings will be or how the specifics on how the burning will occur. The EA is programmatic in that they want to log whenever and wherever for the next 20 years with no public over site of their activities. This is a violation of NEPA, NFMA, the Clean Water Act, the APA, and the ESA.

Please see the article below for a ruling on a similar error by the Forest Service.

Federal court blocks timber sale in Alaska's Tongass National Forest

https://www.adn.com/alaska-news/2020/06/25/federal-court-blocks-timber-sale-in-alaskas-tongass-national-forest/

JUNEAU — A federal judge has blocked what would have been the largest timber sale in Alaska's Tongass National Forest in decades.

Wednesday's ruling ends the U.S. Forest Service's plan to open 37.5 square miles of old-growth forest on Prince of Wales Island to commercial logging, Coast Alaska reported.

The ruling by Judge Sharon L. Gleason also stops road construction for the planned 15-year project.

Conservationists had already successfully blocked the federal government's attempt to clear large amounts of timber for sale without identifying specific areas where logging would have occurred.

Gleason allowed the forest service to argue in favor of correcting deficiencies in its review and moving forward without throwing out the entire project, but ultimately ruled against the agency.

Gleason's ruling said the economic harm of invalidating the timber sales did not outweigh "the seriousness of the errors" in the agency's handling of the project.

The method used in the Prince of Wales Landscape Level Analysis was the first time the agency used it for environmental review on an Alaska timber sale.

The forest service, which can appeal the decision, did not return calls seeking comment.

Gleason's decision affects the Prince of Wales Island project and the Central Tongass Project near Petersburg and Wrangell.

The ruling triggers a new environmental review under the National Environmental Policy Act, said Meredith Trainor, executive director of the Southeast Alaska Conservation Council.

The ruling in the lawsuit brought by the council includes a requirement for public input on specific areas proposed for logging, Trainor said.

Tessa Axelson, executive director of the Alaska Forest Association, said in a statement that the ruling "threatens the viability of Southeast Alaska's timber industry."

Please see the following article by the American bar Association about the use of Condition-Based Management.

May 10, 2021

The U.S. Forest Service's Expanding Use of Condition-Based Management: Functional and Legal Problems from Short-Circuiting the Project-Planning and Environmental Impact Statement Process

Andrew Cliburn, Paul Quackenbush, Madison Prokott, Jim Murphy, and Mason Overstreet

https://www.americanbar.org/groups/environment_energy_resources/publications/fr/20210510-the-us-forest-services-expanding-use-of-condition-based-management/

Condition-based management (CBM) is a management approach that the U.S. Forest Service has increasingly

used to authorize timber harvests purportedly to increase flexibility, discretion, and efficiency in project planning, analysis, and implementation. The agency believes it needs this flexible approach because sometimes conditions on the ground can change more quickly than decisions can be implemented. In practice, however, CBM operates to circumvent the National Environmental Policy Act (NEPA) review framework by postponing site-specific analysis until the Forest Service implements the project, which effectively excludes the public from site-specific decisions, reduces transparency, and removes incentives for the agency to avoid harming localized resources. The practice should be curtailed by the Biden administration

NEPA requires federal agencies including the Forest Service to provide the public with "notice and an opportunity to be heard" in the analysis of "specific area[s] in which logging will take place and the harvesting methods to be used." Ohio Forestry Ass'n v. Sierra Club, 523 U.S. 726, 729–30 (1998). Site-specific public involvement can significantly improve projects because the agency may be unaware of harmful impacts or resource concerns until the public flags them during the environmental analysis process. Nationally, the Forest Service drops about one out of every five acres it proposes for timber harvest based on information or concerns presented during the NEPA process, often due to public comments regarding site-specific information. Public

Lands Advocacy Coalition, Comments on Proposed Rule, National Environmental Policy Act (NEPA) Compliance (June 13, 2019) (analyzing 68 projects that relied on environmental assessments).

The Forest Service appears to be abandoning the site-specific analysis model in favor of CBM. CBM projects use an overarching set of "goal variables"—predetermined management criteria that guide implementation—that Forest Service staff apply to on-the-ground natural resource "conditions" encountered during the course of project implementation, a period that can span years or even decades: essentially, when the Forest Service finds X resource condition on the ground, it applies Y timber harvest prescription. However, basic information regarding the project's details—such as unit location, timing, roadbuilding, harvesting methods, and site-specific environmental effects—is not provided at the time the Forest Service conducts its NEPA environmental review (when the public can weigh in), nor when it gives its final approval to a project (when the public can seek administrative review). Instead, site-level disclosures are made after NEPA environmental and administrative review is complete, depriving the public of opportunities to comment and influence the decision based on localized conditions.

While CBM is not a new management tool, the Forest Service has employed it for over a decade and it was used sparingly during the Obama administration. However, its use accelerated during the Trump administration and

shows no sign of slowing. To date, dozens of Forest Service projects across the country have used CBM. See, e.g., Red Pine Thinning Project, Ottawa National Forest; Medicine Bow Landscape Vegetation Analysis, Medicine Bow-Routt National Forest; Sage Hen Integrated Restoration Project, Boise National Forest.

As the Forest Service's use of CBM continues, questions remain about its legality. Public-lands advocates argue that CBM violates NEPA's mandate that agencies take a hard look at the consequences of their actions before a project commences. This "look before you leap" approach was the primary purpose of NEPA and remains the statute's greatest strength. NEPA works by requiring an agency to consider alternatives and publicly vet its analysis whenever its proposal may have "significant" environmental consequences, 42 U.S.C. § 4332(2)(C), or implicates "unresolved conflicts" about how the agency should best accomplish its objective. Id. at § 4332(2)(E). However, CBM allows the Forest Service to circumvent the effects analysis process when exercising discretion about where and how to log decisions that often may have "significant" environmental consequences.

Only two federal cases have addressed CBM's legality. In WildEarth Guardians v. Connor, 920 F.3d 1245 (10th Cir. 2019), the Tenth Circuit approved a CBM approach for a logging project in southern Colorado in Canada lynx habitat. The environmental assessment utilized CBM and analyzed three different alternatives, one of which was a

worst-case scenario. For the worst-case scenario, the Forest Service assumed that the entire lynx habitat in the project area would be clear-cut. The Forest Service "took the conservative approach" because it "did not know precisely" where it would log in the lynx habitat areas. WildEarth Guardians, 920 F.3d at 1255. Based on this conservative approach, coupled with a comprehensive, region-wide lynx management agreement and its associated environmental impact statement, the court agreed with the Forest Service that its future site-specific choices were "not material" to the effects on lynx—i.e., that no matter where logging occurred, "there would not be a negative effect on the lynx." Id. at 1258–59.

However, a second case addressing CBM found that site-specific analysis was needed to satisfy NEPA's "hard-look" standard. In Southeast Alaska Conservation Council v. U.S. Forest Service, 443 F. Supp. 3d 995 (D. Ak. 2020), the court held that the Forest Service's Prince of Wales Landscape Level Analysis Project—a 15-year logging project on Prince of Wales Island in the Tongass National Forest—violated NEPA. The project would have authorized the logging of more than 40,000 acres, including nearly 24,000 acres of old growth, along with 643 miles of new and temporary road construction, but it "d[id] not include a determination—or even an estimate—of when and where the harvest activities or road construction . . . w[ould] actually occur." Id. at 1009. The court found that this analysis was not "specific enough"

without information about harvest locations, methods, and localized impacts. Id. at 1009–10. The court further held that a worst-case analysis could not save the project, because site-specific differences were consequential. Id. at 1013.

The Forest Service's widespread use of CBM also creates compliance challenges under the Endangered Species Act (ESA). Section 7(a)(2) of the ESA requires federal agencies to consult with the Fish and Wildlife Service and/or National Marine Fisheries Service whenever a proposed action "may affect" listed species or destroy or adversely modify its critical habitat to ensure that the action is "not likely to jeopardize" these species. 16 U.S.C. § 1536. CBM conflicts with that statutory requirement because it does not allow agencies to properly determine whether an action "may affect" or is "likely to jeopardize" a listed species when the consulting agencies do not know the specifics of when or where the action will be implemented, or what the site-specific impacts of the action may be.

For some projects, the Forest Service has tried to avoid this tension by conducting section 7 consultation prior to each phase of a CBM project, but this approach has run headlong into the general rule against segmenting project consultation duties under the ESA. See, e.g., Conner v. Burford, 848 F.2d 1441, 1457 (9th Cir. 1988). With few exceptions, section 7 consultation must cover the overall effects of the entire project at the initial stage before the project can commence. Thus, regardless of whether

agencies choose to consult up front or to consult in stages, the Forest Service is likely to face significant legal hurdles when its CBM project "may affect" listed species.

CBM is not only legally dubious, but also unnecessary. The Forest Service already has NEPA-compliant methods to deal with situations that require a nimble response to the needs of a dynamic landscape. In these cases, the Forest Service can complete a single "programmatic" analysis to which future site-specific decisions will be tiered. This programmatic approach allows the Forest Service to speed the consideration and implementation of site-specific, step-down proposals. Unlike CBM, this approach allows for public review of site-specific decision-making and administrative review of those decisions.

Surveying the regulatory horizon, the future of CBM in the Forest Service system is uncertain. The national forests face a host of complex challenges including climate-related crises, insect and forest pestilence, protecting and restoring biodiversity, and wildfire management. These challenges are made worse by budget and staff restrictions. Without adequate funding, the Forest Service must rely on imperfect tools like commercial logging, which can cause more harm than good in the wrong places.

But this is not the time to shortchange the most consequential decisions that the agency must make: determining where and how to act. During the final two

years of the Trump administration, the Forest Service attempted to explicitly codify CBM provisions in revisions to its NEPA regulations, although those provisions were dropped from the final rule. Simultaneously, other federal land-management agencies like the Bureau of Land Management have started to use CBM analogues in their NEPA-related planning documents. Although it is still early, the Biden administration's newly appointed Council on Environmental Quality team has yet to weigh in on CBM. If use of CBM continues in a manner that undermines public participation and NEPA's "hard look" standard, some of our riskiest land management projects may not receive proper environmental oversight.

The project is not taking a hard look as required by NEPA. Please withdraw the EA until site specific prescriptions and unit boundaries are firmed up, then issue and take comments on an EIS with appropriate prescriptions.

Please find attached the Federal District Court of Alaska's ruling on condition-based management.

What scientific proof to you have that show the project will increase resilience of existing vegetation, restore or maintain proper ecological function to native vegetation communities and wildlife habitats, and improve firefighter and public safety?

How long will this increased resilience last? Please find attached, Scott L. Stephens et al. "Fire Treatment Effects on Vegetation Structure, Fuels, and Potential Fire Severity in Western U.S. Forests ," Ecological Applications 19 (2009): p. 305-320, "found that forests are capable of returning in a wind driven wildfire just a year or two after a prescribed fire." Hanson, "Smokescreen, Debunking Myths to Save our Forests and our Climate."
This happens because the material that drives fires, needles, leaves and twigs, returns very quickly. (Knapp et al. 2007). Please find Knapp et al. 2007 attached.

According to Philip Higuera, professor of fire ecology at the University of Montana: "It's true that if cut, there is less fuel in the forests. But in a lot of cases, there is what's called slash — woody debris — left on the ground that will carry fire across the forest floor, which is what you need for it to spread. The simple answer — if you want to eliminate fire, then pave it and there will be no fire." But one reason President Teddy Roosevelt created national forests was to protect watersheds and wildlife habitat — and neither clearcuts nor pavement makes for great watersheds or wildlife habitat.

How will the enormously high level of fire conducted across the forest affect the ecosystem, wildlife and forest carbon storage levels?

How effective will the project be at stopping wind driven, crown wildfires?

What time of year will the prescribed fires be lit? How will the prescribed fires effect nesting birds and cavity nesting species?

Is the project in compliance with the Migratory Bird Treaty Act?

Which species and processes the prescribed fires harm?

Which species and processes the prescribed fires help?

What evidence do you have that this prescribed burning will make the forest healthier for fish and wildlife?

What about the role of mixed severity and high severity fire – what are the benefits of those natural processes?

How have those processes (mixed and high severity fire) created the ecosystems we have today?

Over how many millennia have mixed and high severity fire have been occurring without human intervention?

What beneficial ecological roles do beetles play? If the project does make the forest more resilient to crown fires how can the forest survive without beetles? How will this affect woodpeckers?

How will the project improve watershed health?

How will the project affect blackjack woodpeckers who depend on blacken trees from crown fires to hide from raptor predators?

Page 4 of the EA states: The proposed action includes 2,305,040 acres for treatment of the 2,627,936 total project area acres. The maximum number of acres that would be burned annually is anticipated to be no greater than 20,000 acres across the project area.

If the project calls for burning 20,000 acres a year for 10 - 20 years the most the Forest Service will be able to burn in 20 years is 400,000 acres but the preferred alternative assumes the project will burn 2,305,040 acres over the life of the project. This appears to violate NEPA. The EA is making assumptions about the effectiveness of the project based on burning 2,305,040 acres when the most the project will be able to burn in 400,000 acres. The tables show that the project

Page 1 of the EA states: "A total of 238,468.70 acres burned from 2014 through 2023, an average of 23,846.87 acres annually."

Why did you use such a short time period to come up with the average acres burned? Such a short window leaves out the historical big fire years of 2000 and 1988.

The Forest Service responded:

Under the proposed action framework, a location-specific review and a survey to confirm resource conditions and effects are consistent with the analysis would occur prior to implementing prescribed fire as part of the implementation plan and checklist process (see appendix C). This would help ensure we have the most current and best available information to inform implementation. Resource specialists would review the design features and the implementation checklist and determine what survey work needs to be done in that specific area, depending on the conditions and resources present and allowable within the scope of this project.

NEPA requires that agencies take a "hard look" at the consequences of prospective actions by "carefully consider[ing] detailed information concerning significant environmental impacts." Robertson, 490 U.S. at 349. Without taking a hard look, the public can not ensure that the project complies with NFMA, the Forest Plan, the ESA and the Migratory Bird Treaty Act.

NEPA analyses must consider a range of reasonable alternative actions and thoroughly assess direct, indirect, and cumulative environmental effects of the proposed alternatives. See 42 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1502 and 1508.

When an agency proposes a project to be implemented without further, site-specific NEPA review, it must disclose the details of its proposed action at a site-specific level and perform a detailed environmental analysis of the reasonably foreseeable impact of those site-specific actions. Alaska Conservation Council, 443 F. Supp. 3d at 1006.
The Forest Service states the following in its internal guidance on compliance with the NEPA: "If the Agency does not know where or when an activity will occur or if it will occur at all[,] then the effects of that action cannot be meaningfully evaluated." See U.S. FOREST SERVICE, FOREST SERVICE HANDBOOK, FSH 1909.15.01(1).

The Forest Service failed to develop or disclose site-specific plans for its silviculture treatments, fuels treatments, and road construction prior to finalizing the Trails Project, rendering its analysis not meaningful and not in accordance with 50 C.F.R. § 1508.23.

The Forest Service's draft decision to proceed with the HLCNF Forestwide Burning Project without disclosing site-specific actions or taking a "hard look" at the effects of those actions was therefore arbitrary, capricious, an abuse of discretion, and not in accordance with the law, and should be not be signed pursuant to the APA, 5 U.S.C. § 706(2).

REMEDY

Choose the No Action Alternative or withdraw the Draft Decision Notice and FONSi write an EIS that fully complies with the law.

We wrote in our comments:

Page 1 of the EA states: Current dense forests across many areas create conditions that make forests susceptible to high levels of mortality. This makes it challenging to support persistence of important habitats and poses a heightened risk to communities in and around central Montana. Past management, including fire exclusion, has resulted in a shift away from low severity fire regimes that were more common in the past in the Helena-Lewis and Clark's dry forests. Similarly, a change is expected in how forests in traditional mixed severity fire regime types will burn due to increased connectivity and a lack of landscape patchiness. Meadows and grasslands are being encroached in some areas by trees that shrink these unique and special segments of the landscape (Schoennagel et al. 2004).

Schoennagel et al. 2004 also found:

The historical fire regime in these forests is complex, in including both low-severity surface fires and infrequent high-severity crown fires.

- ***Both fuels and climate have major influences on the frequency, severity, and size of fires.***

- ***Fire suppression has had variable effects on fuel densities in mixed-severity fire regimes, with the greatest impacts on sites that formerly supported open woodlands.***

- ***The occurrence of high-severity crown fires is not outside the historical range of variability, although their size and frequency may be increasing.***

- ***Extreme climate and weather conditions can over-ride the influence of stand structure and fuels on fire behavior.***

- ***Fuel-reduction treatments (mechanical thinning and prescribed burning) may effectively reduce fire severity under moderate weather conditions, but these treat- ments may not effectively mitigate fire behavior under extreme weather conditions and may not restore the natural complexity of historical stand and landscape structure.***

-

What evidence to you have that the natural fire regime has been altered? What is the regular fire cycle?

The last ten years that the EA uses as the basis for its conclusions were mostly low acres burned years but Schoennagel et al. 2004 wrote: The historical fire regime in these forests is complex, including both low-severity surface fires and infrequent high-severity crown fires.

The EA ignores that the HLCNF has infrequent high-severity fires.

The EA also ignores that Schoennagel et al. found: Fuel-reduction treatments (mechanical thinning and prescribed burning) may effectively reduce fire severity under moderate weather conditions, but these treat- ments may not effectively mitigate fire behavior under extreme weather conditions and may not restore the natural complexity of historical stand and landscape structure.

The EA is violating NEPA, NFMA, and the APA for misleading the public by claiming that the project will meet the purpose and need by making the HLCNF more resilient to fires, insects and disease.

Page 2 of the EA states: Across the Helena-Lewis and Clark National Forest, the high-density forest structure class is above the natural range of variation (NRV), likely due in part to fire exclusion (USDA FS 2021).

Please show the public in the final EA that the study that shows the the high-density forest structure class is above the natural range of variation (NRV).

Please find attached Baker et al. 2023 which disagrees with your statement that the HLCNF is unnaturally thick.

Baker et al. 2023 is the best available science since it was published and peer reviewed. USDA FS 2021 appears to be an unpublished internal Forest Service document that was not peer reviewed not did it under go NEPA and take public comment. There for the project is violating NEPA and NFMA.

Page 4 of the EA states: ***The proposed action includes 2,305,040 acres for treatment of the 2,627,936 total project area acres. The maximum number of acres that would be burned annually is anticipated to be no greater than 20,000 acres across the project area.***

If the project calls for burning 20,000 acres a year for 10 - 20 years the most the Forest Service will be able to burn in 20 years is 400,000 acres but the preferred alternative assumes the project will burn 2,305,040 acres over the life of the project. This appears to violate NEPA. The EA is making assumptions about the effectiveness of the project based on burning 2,305,040 acres when the most the project will be able to burn in 400,000 acres. The tables show that the project

Page 1 of the EA states: "A total of 238,468.70 acres burned from 2014 through 2023, an average of 23,846.87 acres annually."

Why did you use such a short time period to come up with the average acres burned? Such a short window leaves out the historical big fire years of 2000 and 1988.

Page 4 of the EA states:

The Helena-Lewis and Clark National Forest proposes to authorize prescribed burning, hand treatments and mechanical treatments of vegetation across the Forest in areas needing restoration or maintenance outside of designated wilderness or research natural areas (see figure 1, an overview map of the project area). Project activities would include thinning of small diameter trees under 12 inches diameter at breast height, fuel re-arrangement, fire line construction, and prescribed burning. These activities would be accomplished using chainsaws, hand tools, mechanical equipment, or aerial ignitions. The amount of land treated annually would depend on a variety of factors, including weather conditions, air quality, resource protection measures, and resources available to accomplish management goals. The proposed action includes 2,305,040 acres for treatment of the 2,627,936 total project area acres. The maximum number of acres that would be burned annually is anticipated to be no greater than 20,000 acres across the project area. While management activities could occur at any time of year, they would most likely occur in the

spring and fall. Management may occur within riparian areas associated with this proposal.

Since the EA states the project will burn at a maximum 400,000 acres (20,000 acres a year for 10-20 years) does this mean the proposed alternative calls for 1,905,040 acres of logging, euphemistically called thinning? If so you appear to be hiding this from the public in violation of NEPA.

Will any of the logging be commercial logging? If so how much of the logging will be commercial logging.

Page 5 of the EA states:

Fireline construction may include removing vegetation and clearing all vegetation down to mineral soil using mechanical, ground-based equipment, or hand tools, including chainsaws. Fire lines would consist of narrow, hand-dug line (hand line) generally 2 to 4 feet wide or wider, mechanically constructed lines ("dozer" lines) generally 12 to 14 feet wide. Fireline placement would be selected strategically in places that would be easiest to restore. All fireline would be rehabilitated. Fireline would be rehabilitated as needed to prevent erosion and unauthorized use. Fuel breaks may also be used and typically vary from 0-60 feet depending on vegetation type.

How many miles of fire line and fuel breaks will be bulldozed? Since the fuel breaks can be used at motorized trails and roads are you counting them as roads?

The project does not meet the purpose and need of the project. Please see the attached paper by Baker et al. 2023. This landmark study found a pattern of "Falsification of the Scientific Record" in government-funded wildfire studies.

This unprecedented study was published in the peer-reviewed journal Fire, exposing a broad pattern of scientific misrepresentations and omissions that have caused a "falsification of the scientific record" in recent forest and wildfire studies funded or authored by the U.S. Forest Service with regard to dry forests of the western U.S. Forest Service related articles have presented a falsified narrative that historical forests had low tree densities and were dominated by low-severity fires, using this narrative to advocate for its current forest management and wildfire policies.

However, the new study comprehensively documents that a vast body of scientific evidence in peer-reviewed studies that have directly refuted and discredited this narrative were either misrepresented or omitted by agency publications. The corrected scientific record, based on all of the evidence, shows that historical forests were highly variable in tree density, and included "open" forests as

well as many dense forests. Further, historical wildfire severity was mixed and naturally included a substantial component of high-severity fire, which creates essential snag forest habitat for diverse native wildlife species, rivaling old-growth forests.

These findings have profound implications for climate mitigation and community safety, as current forest policies that are driven by the distorted narrative result in forest management policies that reduce forest carbon and increase carbon emissions, while diverting scarce federal resources from proven community wildfire safety measures like home hardening, defensible space pruning, and evacuation assistance.

"Forest policy must be informed by sound science but, unfortunately, the public has been receiving a biased and inaccurate presentation of the facts about forest density and wildfires from government agencies," said Dr. William Baker in their press release announcing the publication of their paper."

"The forest management policies being driven by this falsified scientific narrative are often making wildfires spread faster and more intensely toward communities, rather than helping communities become fire-safe," said Dr. Chad Hanson, research ecologist with the John Muir Project in the same press release. "We need thinning of small trees adjacent to homes, not backcountry management."

"The falsified narrative from government studies is leading to inappropriate forest policies that promote removal of mature, fire-resistant trees in older forests, which causes increased carbon emissions and in the long-run contributes to more fires" said, Dr. Dominick A. DellaSala, Chief Scientist, Wild Heritage, a Project of Earth Island Institute concluded in the press release.

Following is a summary of their paper.

Landmark Study Finds Pattern of "Falsification of the Scientific Record" in Government-Funded Wildfire Studies
Short Summary of the Newly Release Study "Countering Omitted Evidence of Variable Historical Forests and Fire Regime in Western USA Dry Forests: The Low-Severity-Fire Model Rejected":
An unprecedented new study, Baker et al. (2023), published in the peer-reviewed journal Fire, exposed a broad pattern of scientific misrepresentations and omissions by government forest and wildfire scientists. This "falsification of the scientific record" is driving bad policies and government mismanagement of public forests, including clearcutting and commercial logging of mature and old-growth trees under deceptive euphemisms like "thinning", "restoration", and "fuel reduction". In particular, studies funded by the U.S. Forest Service, an agency that financially benefits from commercial logging on public lands, have presented a falsified narrative that

historical forests had low tree densities and were heavily dominated by low-severity fires, using this narrative to push for increased commercial logging.

While Baker et al. (2023) documents a broad pattern of scientific omissions by Forest Service studies, it focuses on Hagmann et al. (2021), a Forest Service study that has received much media attention and has been used as the justification for a series of unprofessional public attacks and character assassination efforts by Forest Service-funded scientists against independent forest/fire scientists. Centrally, Baker et al. (2023) found that, while Hagmann et al. (2021) was presented ostensibly as a review, that paper listed a series of studies by independent scientists, and then listed the Forest Service's published critiques of those studies, but never mentioned the stacks of reply studies by independent scientists that completely refuted and discredited the Forest Service critiques. Through this glaring omission of a huge body of scientific evidence, Hagmann et al. (2021) created the false appearance that the Forest Service critiques were the last word on the subject. The scientific reply studies by independent scientists note that the Forest Service critiques do not challenge the central evidence or conclusions of the initial studies, and the reply articles provide exhaustive evidence documenting why the tangential critiques in the Forest Service articles are unfounded and inaccurate–all of which was concealed by Hagmann et al. (2021).

The corrected scientific record, based on all of the evidence, shows that historical forests were highly variable in tree density, and included "open" forests as

well as many dense forests. Further, historical wildfire severity was mixed and naturally included a substantial component of high-severity fire, which creates essential snag forest habitat that rivals old-growth forest in terms of native biodiversity. These findings have profound implications for climate change mitigation and community safety, as current forest policies that are driven by the distorted narrative result in forest management policies that reduce forest carbon and increase carbon emissions, while diverting scarce federal resources away from proven community wildfire safety measures like home hardening, defensible space pruning, and evacuation assistance.

Why is this project not in violation of NEPA because the HLCNF appears to be using the same false narrative that Baker et al. criticize?

The project as proposed is in violation of NEPA, NFMA and the APA because it is claiming that historical were not highly variable in tree density.

Baker et al. 2023 state in their abstract: Management is guided by current conditions relative to the historical range of variability (HRV). Two models of HRV, with different implications, have been debated since the 1990s in a complex series of papers, replies, and rebuttals. The "low-severity" model is that dry forests were relatively

uniform, low in tree density, and dominated by low- to moderate-severity fires; the "mixed-severity" model is that dry forests were heterogeneous, with both low and high tree densities and a mixture of fire severities.

What HRV model is the HLCNF using?

Baker et al. 2023 also state in their abstract: Here, we simply rebut evidence in the low-severity model's latest review, including its 37 critiques of the mixed-severity model. A central finding of high-severity fire recently exceeding its historical rates was not supported by evidence in the review itself. A large body of published evidence supporting the mixed-severity model was omitted. These included numerous direct observations by early scientists, early forest atlases, early newspaper accounts, early oblique and aerial photographs, seven paleo-charcoal reconstructions, ≥18 tree-ring reconstructions, 15 land survey reconstructions, and analysis of forest inventory data. Our rebuttal shows that evidence omitted in the review left a falsification of the scientific record, with significant land management implications. The low-severity model is rejected and mixed-severity model is supported by the corrected body of scientific evidence.

What areas of the forest are outside of the normal range of variability?

What scientific literature are you referring to when the scoping notice states:

The scientific literature is exceedingly clear that the most effective way to reduce fire spread rates and severity is with some combination of management that includes prescribed fire.

One page 2 of the final EA and FONSI, the Forest Service had the following footnote:

1 Baker et al. published a paper in 2023 countering evidence offered in this particular article. The Baker et al. paper draws sweeping conclusions from limited on the ground data, with no actual data from Montana or the Northern Rockies. Nevertheless, we note that our analysis aligns with conclusions from both papers: forests are denser today than they were historically and species composition has shifted, sometimes dramatically (Hagmann et al.) and mixed severity fire regimes were a substantial and important portion of the historical fire regimes and management should operate with this knowledge (Baker et al.).

Baker et al. 2023 definitely did not say that forests today are denser. There are many portions of tBaker et al. 2023 that document very dense historical forest conditions, and that the USFS keeps covering up this evidence in violation of NEPA.

Claims that our forests are tinderboxes because they are massively "overgrown and unhealthy" and "fuel reduction treatments" i.e. logging, are the cure, is largely a myth promoted by the timber industry, politicians, and their allies in the USFS. The myth has been debunked by numerous independent experts, both in this country and abroad. For example, the most widely cited forest ecologist in the world, Dr. David Lindenmayer, author of 48 books on forests, says, "logged forests always burn at greater severity than intact forests."

The climate crisis has become the main driver of Western forests' new fire vulnerability. Fire frequency and intensity are directly related to drought, temperature, and wind, not tree density or "excessive fuels." In fact, dense tree stands act as wind breaks, retain moisture, and decrease forest temperatures.

Page 9 of the EA states:

Wildlife and plants: There are federally listed plant and animal species that could occur within the project area and Regional Forester Sensitive Species of plants, terrestrial animals, and aquatic species that could be affected by proposed activities. In addition, bird species protected by the Migratory Bird Treaty Act are present in the areas proposed for treatment. Each species has unique habitat requirements, which often contrast as one species may require open or early successional habitat, while another species requires mature forest. The project

area provides a diverse range of suitable habitats for many species.

Demonstrating that all wildlife species will be benefited by this project would seem to require some rather extensive documentation to the public, none of which was provided in the EA. We believe that the NEPA requires the agency to adequately demonstrate that the determination that this project will benefit all wildlife species needs to be included in the public involvement process, which in this case is the EA.

Use of an EA for this project is also invalid because the proposed vegetation treatments would occur within Inventoried Roadless Areas (IRA). This qualifies as an extraordinary circumstance that invalidates use of a EA. Although the presence of an extraordinary circumstance does not automatically preclude use of a EA, application of a EA requires documentation . It is the existence of a cause-effect relationship between a proposed action and the potential effects on these resource conditions and if such a relationship exists, the degree of the potential effects of a proposed action on these resource conditions that determine whether extraordinary circumstances exist (36 CFR 220.g(b).

There is no analysis in the EA that defines why forest thinning and prescribed burning will not significantly affect the area's value to wildlife. We contend that the proposed thinning and burning will have significant adverse impacts on many wildlife species, impacts that are not currently present within IRAs. The EA does not

identify any adverse impacts that have been identified to wildlife from the current habitat conditions in IRAs. Since the current conditions are beneficial to wildlife, and the proposed conditions will be detrimental to wildlife, this means that the proposed action will eliminate existing values of the IRA. This would be a cause-effect relationship, invalidating the use of an EA.

Please explain include a discussion of the following:

1. Baker and Shinneman. 2004. Fire rotation for high-severity fire in juniper is estimated at 400-480 years.

2. Floyd and others. 2004. Stand replacing fires in juniper 400 years or longer.

3. Bauer and Weisberg. 2009. The fire cycle in pinyon-juniper was estimated at 427 years.

What evidence do you have that shows fire has been suppressed in the area?

Baker and Shinneman (2004), Bauer and Weisberg (2009), and Floyd et al. 2004) that demonstrate that the fire cycle in juniper woodlands is very long, up to 400 years or longer, and has not been impacted by any fire suppression actions since settlement. In addition, Coop and Magee (Undated) noted that low-severity fire is not generally considered to have played an important role in shaping patterns of pre- settlement pinyon-juniper woodland structure, where fire regimes were mostly characterized by rare stand-replacing fire; as a result, they noted that direct management interventions such as

thinning or fuel reductions may not represent ecological restoration.

The EA does not identify why thinning juniper and shrubs enhances wildlife habitat, which is the basis for an EA.

There is no information in the EA that defines define why a lack of fire has degraded wildlife habitat. One has to assume that the presence of juniper woodlands is considered an adverse impact on wildlife, and if burned up, would improve wildlife habitat. We have cited a number of publications, just as examples, that in fact identify the high value of juniper woodlands to wildlife. This value includes forage for mule deer, a species that is to be emphasized on this identified winter range. The value of juniper species to mule deer was identified long ago. For example, Lovaas (1958) reported that the primary winter forage for mule deer in the Little Belt Mountains of Montana were several species of juniper. More recently, this importance was again identified in a published research article. Coe et al. (2018) reported that juniper trees are important to mule deer on their winter ranges in Oregon. There is no information in the notice that indicates why juniper removal will benefit mule deer or elk or any wildlife.

Juniper woodlands are also important habitat for many nongame birds (Coop and Magee undated; Reinkensmeyer 2000; Magee et al. 2019).. Coop and Magee (undated) noted that juniper removal treatments substantially reduced the occupancy of pinon-juniper specialists and conifer obligate species, including the

pinyon jay. There One such species, the pinyon jay, is a species of conservation concern who is associated with juniper habitats (Boone et al. 2018); this paper warns of the detrimental impacts to this declining species due to juniper thinning projects. More recently, Magee et al. (2019) reported that juniper removal projects resulted in decreased occupancy of many associated bird species, including the pinyon jay. These research reports are consistent with a 2000 report by Reinkensmeyer that juniper woodlands provide important habitat for many bird species, with bird species diversity and density increasing as woodlands progress into old growth juniper. Given the documented high value of old growth juniper forests to wildlife, the EA at a minimum needed to discuss how old growth juniper is being managed in this landscape. The Intermountain Region recognizes old growth juniper (Hamilton 1993). How much old growth juniper is believed as essential for optimal nongame bird management, and where is this old growth juniper going to be maintained in this IRA and project?

The agency does not address the likely adverse impacts of climate change on the persistence of juniper woodlands or values of forests as carbon sinks.

There is no mention in the EA about how climate change could affect the long-term persistence of juniper woodlands. If the persistence of these woodlands will be adversely impacted by climate change, juniper thinning operations will promote the long-term demise of this important conifer. This impact was noted by Coop and

Mcgee (Undated). Indeed, a recent newspaper article by Maffly (2018) reported on the mystery of why junipers are dying in Utah; widespread loss of junipers would have far- reaching consequences for southern Utah's fragile desert environments.

In addition to the concern about juniper mortality resulting from climate change, we also note that forest thinning in general exacerbates climate change. Milman (2018) recently reported on this issue, noting that scientists say halting deforestation is just as urgent as reducing emissions to address climate change, given the function they provide as a carbon sink. Forest thinning reduces this carbon sink function.

The impact of juniper treatments on the spread of noxious weeds was generally ignored and downplayed in the EA, even though this is very likely a significant adverse impact of this proposal.

There is a considerable awareness today regarding the problems of noxious weed infestations on public lands. One activity that is clearly promoting noxious weeds are fuels reduction and prescribed burning projects. We cite only a few examples at this time. One example is a Joint Fire Science Report by Coop and Magee (Undated), where they note that fuels and juniper reduction treatments resulted in rapid, large and persistent increases in the frequency, richness and cover of 20 non-native plant species including cheatgrass; exotic plant expansion appeared linked to the disturbance associated with treatment activities, reduction

in tree canopy, and alterations to ground cover; exotic species were much more frequently encountered at treated than control sites, occurring at 86% of sample plots in treatments and 51% of untreated sample plots; richness of exotic species in treatments was more than double that of controls. What is also interesting in this study is that cheatgrass showed a negative effect of tree canopy, which means that cheatgrass was benefited by canopy removal. They noted that models for chestgrass alone and all non-native species together indicate strong negative associations with tree canopies, indicating that increased light availability, or perhaps below-ground resources such as moisture or nitrogen, enhance colonization and growth in treatments. Increases in exotic plant species in treatment areas was one of the reasons these researchers concluded that managers need to be cautious about implementing treatments in light of the persistent, negative ecological impacts that accompany woodland thinning in pinyon pine- juniper ecosystems; this includes an increase in fire frequency.

Kerns and Day (2014) also reported that juniper treatments resulted in at least a short-term conversion of juniper woodlands to an exotic grassland. And Kerns (undated)

reported similar findings in another Joint Fire Science Program report; she stated that it is a significant challenge for land managers to apply thinning and burning fuel treatments in a manner that does not exacerbate existing weed and associated resource

problems due to the reduction of ecological resistance that fuel reduction activities created, combined with the aggressive nature of exotic species present. Kerns also noted that weed problems were also caused in slash pile burning, which is planned for the Rowley Canyon project.

Perchemlides et al. (2008) reported similar problems with juniper thinning projects in Oregon; exotic annual grass cover increased, whereas cover by native perennial grasses did not, in treatment areas; they noted that fuel reduction thinning may have some unintended negative impacts, including expansion of exotic grasses, reduction in native perennial species cover, persistent domination of annuals, and increased surface fuels.

The EA failed to provide any documentation that conversion of juniper woodlands to grasslands, including cheatgrass, improves habitat for all wildlife species.

The agency notes that the project will not only reduce juniper, but various shrubs as well. Although we noted above that juniper woodlands have a very high value to many wildlife species, it is not clear that replacing juniper with grasses, including cheatgrass, balances out the loss of wildlife species removed due to juniper removal by replacement with other wildlife species that use only grasses as habitat. For example, the scooping notice did not identify that mule deer on this winter range use grasses as winter forage. The value of cheatgrass to elk in the winter is also not demonstrated. Cheatgrass seeds are extremely sharp, and use by elk in the winter seems unlikely. Cheatgrass use by wildlife in the summer is also

unlikely after early spring, since this grass cures out by summer. The seeds of cheatgrass are also responsible to mortality through blinding of grassland birds (McCrary and Bloom 1984).

General comments on the proposal are as follows:

Parts of this very large project area are big game winter range as per the Forest Plan. The EA failed to define what the specific habitat objectives are for this winter range, including hiding and thermal cover, as well as forage. Juniper and sagebrush are key forage plants for big

game on winter ranges. What are the objectives for these forage species? The Forest Plan direction for this management area is binding. If the agency is going to claim that the Forest Plan is being implemented, you need to specifically define how this is being done, instead of simply claiming that juniper and shrub removal is improvement on big game winter range. Also, the science and monitoring behind this claim need to be provided. Currently mule deer populations have been in decline across the western U.S.. We haven't seen any science that reported increases of mule deer populations following removal of juniper and shrubs on their winter ranges.

One issue that is generally ignored in the EA is what shrubs are present, and will be targeted for masticating and burning. Do these control efforts include sagebrush? There is extensive documentation that sagebrush is highly valuable to both elk and deer on winter ranges (Wambolt

1998, Petersen 1993). Removing sagebrush to increase grasses on winter range, as is suggested in the EA, does not promote mule deer and elk. Sagebrush has a high protein content of almost 13% in the winter, while dormant grasses have a protein content of less than 4% (Peterson 1993). There can

be no valid reason to remove sagebrush and replace it with grasses for big game winter forage. The actual replacement species the agency claims are going to be managed for are never identified. But at a minimum, the rationale for removing shrubs and replacing them with grasses on winter range needs to be documented, as is required by the NEPA.

The claim that this project will increase diversity is pure unsupported rhetoric. There is no definition as to what constitutes diversity. What criteria are being used to measure diversity, and why isn't this information provided to the public? For example, what is the criteria for a diversity of age classes in juniper woodlands or sagebrush, and what is this based on? The NEPA requires that the agency provide reliable, valid information to the public on projects. This claim that removing juniper and shrubs will improve diversity is a clear violation of the NEPA, as there is no actual basis for it. Worse, it is not clear why eliminating trees and shrubs increases diversity as per the standard definitions. What science claims that a grassland has higher habitat diversity than a woodland or forest, or shrubland? One likely factor driving the proposed project is not promotion of big game species and

wildlife, but instead is being done for livestock. This may be why there is no

actual discussion in the EA of current livestock grazing practices in this landscape.

The claim that thinning and removing juniper will increase resiliency of this area is highly questionable. First, these forests are not highly flammable as per the current science. Second, thinning will likely increase flammability by increasing wind speeds and vegetation drying due to a reduction of shade. Third, flammability will surely be increased over current conditions due to an increase of grasses, including exotic species as cheatgrass. The EA did not provide any actual science to indicate that prescribed burning will reduce fires, and thereby increase "resiliency" of this winter range.

The EA did not provide any monitoring data on the effect of the fire on as winter range, or how this fire affected the extent of exotic vegetation, such as cheatgrass and other weeds. Since the proposed actions will be somewhat similar in effect, it would seem to be important for the agency to provide this information to the public.

The EA never provides any monitoring data, or references any current science, as to what the specific problems are in this landscape for wildlife. How did the

agency determine that the current conditions are causing problems for wildlife? In general, one would not expect trees to be a problem for wildlife, especially juniper which

is a highly valuable resource for wildlife, not just for forage, including berries, but as hiding and thermal cover. How has the agency determined that hiding cover are too high in this winter range? What are the objectives for hiding and thermal cover which are the target for management intervention?

The proposed action is very extensive for conclusions that it will not significantly change and degrade conditions for wildlife. It is not clear how this was determined. For example, treatment of 1,666 acres within the 3,955 acre project area is a significant acreage for wildlife. These treatments include pre-felling 60-85% of the juniper followed by burning; mastication vehicles will also be used which will provide additional disturbance for weeds on these 263 acres. A larger treatment area of 1,019 acres will remove up to 60% of the juniper; mastication vehicles will be required in some areas, and slash piles will require burning; large fuels will be left on site; it is not clear why these dried large fuels will not increase, rather than reduce fuels. In the third treatment area of 384 acres, shrubs will

be masticated and broadcast burned, and small areas of juniper will also be slashed and burned.

The EA lacks some important information, such as what species of shrubs are going to be slashed and burned. Why aren't these shrubs being used by wildlife? The EA states that these shrubs will be replaced with seedings of "desirable" plant species for wildlife. However, there is no

formation as to what these plant species are, and why they will have more value to wildlife than the existing shrubs and juniper that are to be removed.

Overall, this EA is a violation of the NEPA because the public is provided essentially no information as to why this project will benefit wildlife. This project is defined as "wildlife habitat improvement activities." At a minimum, the agency needs to demonstrate to the public that this is in fact the case. The EA also did not provide any information as to how the resource specialists determined that the project will not lead to any significant effects on wildlife. These conclusions need to be documented for the public, including criteria that were used and evaluated to measure levels of significant impact. As just one question, if the Forest Plan standard to manage this area to promote big game species on their winter range is not being followed, this would most likely trigger significant impacts. It seems like that this is an intentional Forest Plan violation to promote livestock grazing over wildlife in this landscape. Juniper removal has been a long-standing practice to promote livestock grazing, not wildlife. The EA did not discuss the current grazing use of this area by livestock. This information needs to be included as important information to the public.

The Forest Service responded:

Purpose and Need

Concern Summary: Some commenters expressed concern about the purpose and need, particularly the need to restore the project area to historical conditions. Commenters had concerns that, due to climate change and other factors, historical conditions may not be achievable or desirable considering future climate or uses.Forestwide Prescribed Fire Project Environmental Assessment Helena-Lewis and Clark National Forest

We consider this a lot internally as well. As noted in the proposed action, while longer fire seasons and changing weather conditions argue for a more aggressive approach to management, this project does not even quite reach historical levels of burning. However, this project would allow the Helena-Lewis and Clark to make critical progress in strategically selected areas where we would be able to reduce the severity of wildfire and thus increase the amount of live forest in the long term, amongst other benefits.
Desired conditions and objectives would be informed by the Forest Plan, which was developed based on knowledge about historical fire return internals and how these fire return internals shaped our forests in the past. Another important purpose of the project is reducing the risk of catastrophic wildfire, an agency priority. Increasing the pace and scale of prescribed fire would result in the lessening of uncharacteristic fuel loading and would increase the resiliency of existing vegetation groups to future stressors like climate change, insects, and disease.

The project is in violation of NEPA, NFMA and the APA. We also incorporate the following column by George Wuerthner into our comments.

Why Prescribed Burning Is Seldom Effective

thewildlifenews.com/2021/09/29/why-prescribed- burning-is-seldom-effective/George WuerthnerSeptember 29, 2021

Prescribed burning is often seen as a way to reduce to the large climate-driven blazes now occurring across the West, however, there are many problems that proponents fail to acknowledge. Photo George Wuerthner

It seems everyone is grasping for some "solution" to big fires. And one of the common assertions is that more prescribed burning would reduce fire spread and allow firefighters to knock down a blaze.

Increasingly we also hear that tribal people kept fires from becoming large by the frequent burning of the landscape–as if this was a secret tool no one in the fire fighting agencies knew about. The evidence suggests that tribal burning likely reduced fuels in the IMMEDIATE area around villages but seldom influenced the larger landscape fire rotation. You can read more on this at https://www.thewildlifenews.com/2020/11/23/indigenous-burning-myths-and-realities/

A prescribed burn, whether done by Indians for cultural purposes or a firefighter with a drip torch, may reduce fuels for a short period. And if a fire were to encounter the burn when fuels were reduced, it might influence fire spread. However, one of the problems with prescribed burning (as well as thinning forests) is the likelihood that any blaze will encounter a "fuel reduction" when it may be effective at

influencing fire spread is exceedingly rare. So most prescribed burns (as well as thinning) have no influence whatsoever.

In addition, the very fire people are anxious to stop or control are those burning under extreme fire conditions. These conditions include high temperatures, low humidity, drought and most importantly high winds. High winds, often blow embers over and through “fuel reductions” like prescribed burns. In other words, even if such prescriptions worked under low to moderate fire weather conditions, fuel reductions including thinning and prescribed burning typically fail to alter fire spread due to wind transport of embers.

Just burning enough of the landscape to have any influence on wildfires is also problematic. The window when burning is safe is frequently very narrow. Concerns about smoke dispersal add to the limitations. Furthermore, there is always a chance that a prescribed burn will get away and burn far more of the landscape, including homes, prescribed burning increases the chances of fire losses. Due to the low possibility that any blaze will encounter a prescribed burn during the period when it could change fire behavior whether you would reduce the acreage charred is questionable.

A prescribed burn could get away from fire fighters and burn significant acreage as occurred with the Davis Fire near Canyon Creek, Montana and the Cerro Grande prescribed burn that destroyed homes in Los Alamos, New Mexico. When such planned ignitions get away from fire fighters due to changing weather conditions, the District

Ranger or Park Supervisor or other responsible agency personnel get blamed for the destruction of property.

This area on the Deschutes National Forest was prescribed burn the previous season. The regrowth of grasses (finefuels) is now denser than what existed before the burn. Photo George Wuerthner

The other problem with prescribed burning is that in many ecosystems, burning stimulates plant growth. This additional biomass results from the removal of competing vegetation and release more nutrients, water, and sunlight for the remaining plants. Consequently, within a few years of a prescribed burn, you will often get more fine fuels like grass, shrubs, and small trees than before the burn.

In addition, frequent burning was not the dominant fire regime in many ecosystems. Chaparral, sagebrush, and higher elevation conifer forests like fir, lodgepole, spruce, and others all had naturally long fire rotations and intentionally burning them harms them.

I repeatedly see around the West that agencies will perform a prescribed burn and never bother with the follow-up maintenance. While prescribed burning could be effective if strategically located by communities and repeated continuously, this seldom occurs.

The following two photos demonstrate this idea. The first photo was taken a week after the Bridger Foothills Fire swept across forests, hayfields, and pastures in September 2020. Note that the hayfield has very little grass after being mowed. But strong winds drove the fire across even one-inch stubble. The second photo taken in nearly the exact location shows how rapidly the grass regrew after a

fire. In other words, without continuous “maintenance,” the burn would have little impact on slowing or stopping a fire.Area burned by Bridger Foothill Fire near Bozeman in September 2020. Photo George Wuerthner
Same location (note the burnt fence post) a year later where grass (fuel) regrew. Photo George WuerthnerAll this said I don’t oppose the strategic use of prescribed
burning so long as people recognize the limitations. Reducing fuels around communities and homes can be effective if and when a blaze threatens structures. However, the idea that somehow prescribed burning is an effective panacea that can reduce or preclude climate- driven blazes is questionable.
Please see the attached paper by Dr. William Baker titled: “Are High-Severity Fires Burning at Much Higher Rates Recently than Historically in Dry-Forest Landscapes of theWestern USA?”
Dr. Baker writes: “Programs to generally reduce fire severity in dry forests are not supported and have significant adverse ecological impacts, including reducing habitat for native species dependent on early-successional burned patches and decreasing landscape heterogeneity thatconfers resilience to climatic change.”
Dr. Baker concluded: “Dry forests were historically renewed, and will continue to be renewed, by sudden, dramatic, high-intensity fires after centuries of stability and lower-intensity fires.”
The purpose of this project is the need to restore a fire regime to the landscape. Based on Dr. Baker’s paper, the

proposed action will not meet the purpose and need of the project.Dr. Baker's paper is the best available science. Please explain why this project is not following the best available science.

Much of the acreage that has burned in the Rockies is higher elevation lodgepole pine and subalpine fir forests that have long fire rotations of hundreds of years and have not been influenced to any great degree by fire suppression. Furthermore, fuel treatment often enhances fire advancement by increasing the fine fuels (needles, branches, grass growth) on the surface. Plus, opening the forest by thinning can lead to greater drying and wind penetration, both major factors in fire spread.
The advocates for thinning continue to ignore that most large fires around the West, including those in mixed conifer and ponderosa pine, have occurred in lands under "active forest management." That includes the Ashley Fire and Bootleg Fires, which were among the two largest blazes this past summer in California and Oregon.
For instance, 75% of the Bootleg fire, which burned over 400,000 acres, had previously been "treated" by some form of "fuels management" with no discernible effect on fire spread.
There is plenty of proof from numerous fires where active forest management had no apparent effect on fire behavior or fire spread.
A review of 1500 fires across the West found that as a

generalization, areas under "active forest management,"which includes thinning and prescribed burning, tend to
burn at higher severity than lands like wilderness areas where "fuel treatments" are prohibited.
There is an equally strong consensus among scientists that wildfire is essential to maintain ecologically healthy forests and native biodiversity. This includes large fires and patches of intense fire, which create an abundance of biologically essential standing dead trees (known as snags) and naturally stimulate regeneration of vigorous new stands of forest. These areas of “snag forest habitat” are ecological treasures, not catastrophes, and many native wildlife species, such as the rare black-backed woodpecker, depend on this habitat to survive.
Fire or drought kills trees, which attracts native beetle species that depend on dead or dying trees. Woodpeckers eat the larvae of the beetles and then create nest cavities in the dead trees, because snags are softer than live trees. The male woodpecker creates two or three nest cavities each year, and the female picks the one she likes the best, which creates homes for dozens of other forest wildlife species that need cavities to survive but cannot create their own, such as bluebirds, chickadees, chipmunks, flying squirrels and many others.

We can no more suppress forest fires during extreme fire weather than we can stand on a ridgetop and fight the wind. It is hubris and folly to even try. Fires slow and stop when the weather changes. It makes far more sense to focus our

resources on protecting rural homes and other structures from fire by creating “defensible space” of about 100 feet between houses and forests. This allows fire to serve its essential ecological role while keeping it away from our communities.

The project is not meeting the purpose and need of the project in violation of NEPA, NFMA and the APA.
In “Fire Ecology in Rocky Mountain Landscapes” by William Baker, Dr. Baker writes on page 435, “ ...a prescribed fire regime that is too frequent can reduce species diversity (Laughlin and Grace 2006) and favor invasive species (M.A. Moritz and Odion 2004). Fire that is entirely low severity in ecosystems that historically ex- perience some high-severity fire may not favor germination of fire- dependent species (M.A. Moritiz and Odion 2004) or provide habitat key animals (Smucker, Hutto, and Steele 2005).” Baker continues on page 436: “Fire rotations equal the average mean fire interval across a landscape and are appropriate intervals at which individual points or the whole landscape is burned. Composite fire intervals underestimate mean fire interval and fire rotation (chap 5) and should not be used as prescribed burning intervals as this would lead to too much fire and would likely lead to adversely af- fect biological diversity (Laughlin and Grace 2006).”
Please find (Laughlin and Grace 2006) attached.Dr. Baker estimates the high severity fire rotation to be 135
- 280 years for lodgepole pine forests. (See page 162.).
Baker writes on page 457-458 of Fire Ecology in Rocky

Mountain Landscapes:

“Fire rotation has been estimated as about 275 years in the Rockies as a whole since 1980 and about 247 years in the northern Rockies over the last century, and both figures are near the middle between the low (140 years) and high (328 years) estimates for fire rotation for the Rockies under the HRV (chap. 10). These estimates suggest the since EuroAmerican settlement, fire control and other activities may have reduced fire somewhat in particular places, but a general syndrome of fire exclusion is lacking. Fire exclusion also does not accurately characterize the effects of land users on fire or match the pattern of change in area burned at the state level over the last century (fig 10.9). In contrast, fluctuation in drought linked to atmospheric conditions appear to match many state-level patterns in burned area over the last century. Land uses that also match fluctuations include logging, livestock grazing, roads and development, which have generally increased flammability and ig- nition at a time when the climate is warming and more fire is coming.”The following article contends that large scale prescribed

burning does not meet the purpose and need of the project.

Myths of Prescribed Fire: The Watering Can that Pretends to be a River

By Bryant Baker, M.S., Conservation Director, Los Padres ForestWatch

and Douglas Bevington, Ph.D., Forest Program Director, Environment Now

Editors’ note: This article originally appeared in the Environment Now foundation’s report, “Working from the

Home Outward: Lessons from California for Federal Wildfire Policy." Baker and Bevington's piece focuses on California's ecosystems. The role of fire of varies by ecosystem, and readers are encouraged to consider their local conditions when assessing the role of prescribed fire. The "Home Outward" report also includes pieces by experts on other key dimensions of fire issues, including home retrofits for public safety during wildfires.

The use of prescribed fire—intentionally setting fires in forests and other ecosystems under planned circumstances—has received increased attention in California and elsewhere in recent years. On the one hand, it is good that there is growing recognition that fire is a natural and necessary part of forests and other ecosystems. On the other hand, current advocacy for large-scale prescribed fire across vast areas is often built on outdated assumptions and overstated claims, while downplaying problems stemming from how prescribed fire is actually being implemented. This factsheet identifies five key sets of myths regardingprescribed fire and shows how they can lead to misguided

policies and missed opportunities to better accomplish public safety and ecological restoration goals in a more cost-effective manner. To create effective fire policies, we need to face these facts—Prescribed fire increases fire and smoke. Prescribed fire is inefficient for public safety compared to home retrofits. Prescribed fire is inefficient for ecological restoration compared to managed wildfire. Prescribed fire can be harmful. And prescribed fire and cultural burning are not the same.

Prescribed fire increases fire and smoke.

A central myth is that increasing prescribed fire will lead to less fire and overall. Proponents of prescribed fire highlight examples where a portion of a wildfire halted when it encountered a previously burned area, but these anecdotes are the exception rather than the rule. The reality is that wildfires can burn through previously burned areas as soon as eight months after the prior fire (Stephens and Moghaddas 2005). Over 106,000 acres within the 2020 LNU Lightning Complex in California had burned within the previous five years, with 67,000 acres having burned just two years prior. As fire researchers have stated, “fuel treatments are not intended to stop wildfires” (Omi and Martinson 2004). Instead, the main goal of prescribed fire is to somewhat alter subsequent fire intensity in the affected area, though that may not occur under unfavorable weather conditions. In other words, prescribed fire is additive to, rather than being a substitute for, wildfire. Even in instances where prescribed fire has been found to limit wildfire extent, the acreage of a prescribed burn significantly exceeds the acreage of subsequent wildfire reduction, with 3-4 units of prescribed fire needed to reduce wildfire by one unit (Fernandes 2015). Furthermore, the effects of prescribed fire on wildfire behavior fade within a few years. Within as little as 2 or 3 years after prescribed fire, combustible understory vegetation can return to levels equal to or greater than levels prior to prescribed burning (Knapp et al. 2007). Thus, prescribed fires would need to be reapplied on a regular basis, repeatedly adding fire to many places that otherwise might not encounter a wildfire

until many years in the future. For all these reasons, increased use of prescribed fire will likely lead to a net increase in the total amount of fire (Hunter and Robles 2020).

With that additional fire comes additional smoke. Proposals to implement landscape-wide prescribed fire could result in ten times as much smoke (Hanson 2021; see also p. 12 in this report). In addition to increasing the total amount of smoke, increasing prescribed fire also increases the duration of smoke exposure. While wildfire smoke is concentrated in the height of fire season—and landscape-scale use of prescribed fire would not preclude this—prescribed fires are typically lit in the "shoulder seasons" when wildfires are less likely, and thus prescribed fires prolong smoke exposure into times when it would not otherwise occur. There can be circumstances where it is appropriate to use prescribed fire, but it should be done knowing that the effect will be an overall increase in the amount and duration of fire and smoke.Prescribed fire is inefficient for public safety compared to home retrofits.

Please seen the column below from Dr. Brian Moench about the health effects on humans of prescribed fires.

Brian Moench: Everyone has

taken up smoking in Summit County

Forest Service idea of preventing wildfires is poisoning the air.

https://www.sltrib.com/opinion/commentary/2022/12/14/brian-moench-everyone-has-taken/
Everyone in Summit County has taken up smoking — Mormons, non-Mormons, infants, adults, pregnant mothers, athletes, the elderly, everyone. Not tobacco, wood smoke. And that's worse.

Under the guise of wildfire prevention, Uinta-Wasatch-Cache National Forest Service officials are busy "thinning" forests in the county with chain saws, creating thousands of piles of dead and live trees and setting them on fire. The smoke has been blanketing Summit County for the last two years.

Wood smoke is the worst type of pollution the average person ever inhales, more toxic than tobacco smoke. Wood smoke consists of uniquely small pollution nanoparticles. The smaller the particle, the more easily it is inhaled, the more easily the blood stream picks it up from the lungs, and ultimately the more easily it penetrates and damages every organ system.

Magnifying the hazard, the smoke contains a witches' brew of toxic chemicals and heavy metals. Burning 10 pounds of wood in a fireplace for one hour emits as many polycyclic aromatic hydrocarbons (PAHs) as tens of thousands of packs of cigarettes. Wood smoke easily seeps into even the most tightly sealed residences where it lingers long after the burning is over, perpetuating exposure.

Years ago, our physicians group convinced Summit County Health Department to ban fireplaces in new home construction. We worked with the EPA to help 32 Summit County families using wood stoves, exchange them for cleaner heat sources, to the benefit of the entire community. Now this achievement in Summit County is being smothered by the U.S. Forest Service (USFS).

Much like the Bureau of Land Management often behaves as a subsidiary of the cattle industry, the USFS has a long history of protecting the timber, fossil fuel and ski industries instead of the forests. (Like their recent approval of the Uinta Basin Railway, Utah's own fossil fuel carbon bomb.)

The narrative promoted by land management agencies that thinning the forests is necessary or even useful to control wildfires is controversial at best, with the bulk of the supportive research funded by the timber industry or USFS.

While removing biomass surrounding mountain homes reduces fire risk, large scale "forest thinning" is a different matter. Over 40 studies from different countries contradict conventional wisdom that "fuel reduction logging" controls wildfires.

In the largest study ever done, the authors concluded the more forest "thinning," the more quickly and intensely a wildfire burns.

"Dense, mature forests tend to burn less … because they have higher canopy cover and more shade, which creates a cooler, moister microclimate. The higher density of trees of all sizes can act as a windbreak, buffering gust-driven flames. Thinning and other activities that remove trees, especially mature trees, reverse those effects, creating hotter, drier, and windier conditions."

Because no crystal ball reveals the time or location of future wildfires, unless thinning is done on an impossibly massive scale, it has little chance of happening at the right time or place to minimize a wildfire.

If there is legitimate debate about forest thinning, there is no debate that setting hundreds of forest bonfires is creating a pollution and public health nightmare in Summit County. Limiting bonfires to "good air quality" days is false comfort, a complete misunderstanding of the medical research.

There is no safe level of pollution. In fact, pollution released into a back ground of clean air actually does more damage to public health than the same amount of pollution released into an already polluted airshed, because the dose response curve between pollution and disease is steeply hyperbolic, not linear.

Intentionally cutting and burning trees is also climate malpractice. Per BTU produced, wood combustion releases 30% more CO2 than coal, 2.5 times more than natural gas. The global carbon equation of just the next few years will determine whether or not temperature rises exceed 1.5 degree C, the threshold at which scientists warn of an irreversible spiral into climate disaster because of positive feed-back loops and atmospheric tipping points.

Killing carbon absorption of live trees and releasing the carbon by burning them, just for a "theoretical, possible, perhaps, maybe some-day" less intense future wildfire is a fool's bargain, not supported by any evidence.

For the forest service to be igniting countless bonfires is a stunning sacrifice of human and climate health for a highly dubious pursuit of "forest health," and an ironic example of "not seeing the forest through the trees."

Brian Moench, M.D., Salt Lake City, is president of Utah Physicians for a Healthy Environment and board chair of Doctors and Scientists Against Wood Smoke Pollution, an international coalition seeking to end wood burning.

The Forest Wide Burning project Draft Decision Notice does not adequately analysis the effect on human health from all of the smoke the project will produce.

Federal Clean Air Act;

42 U.S.C. 7470. Congressional declaration of purpose

The purposes of this part are as follows:

(1) to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipate to occur from air pollution or from exposures to pollutants in other media, which pollutants originate as emissions to the ambient air), notwithstanding attainment and maintenance of all national ambient air quality standards;

(2) to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value;

42 U.S.C. 7491. Visibility protection for Federal class I areas

(a) Impairment of visibility; list of areas; study and report
(1) Congress hereby declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas whose impairment results from manmade air pollution.

As usual, the agency is long on promises, and short on concrete evidence and analysis when dealing with protection of Class I air quality of Glacier National Park.

U.S. Forest Service is a member of the Montana/Idaho Airshed Group. This coordination ensures that during

project implementation burning only occurs under conditions that would protect air quality and meet state and national standards. EA, p. 441.

There is no evidence and no disclosure in the EA of any coordination with Glacier National Park with regard to preserving, protecting, and enhancing the air quality in the park, in violation of the clear purpose and intent of the cumulative effects requirements of NEPA and the Clean Air Act.

III. Background

A. Requirements of the Clean Air Act and the EPA's Regional Haze Rule

In section 169A of the 1977 Amendments to the CAA, Congress created a program for protecting visibility in the nation's national parks and wilderness areas. This section of the CAA establishes "as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution." [3] On December 2, 1980, the EPA promulgated regulations to address visibility impairment in Class I areas that is "reasonably attributable" to a single source or small group of sources, *i.e.,* reasonably attributable visibility Start Printed Page 17950impairment.[4] These regulations represented the first phase in addressing visibility impairment. The EPA deferred action on regional haze that emanates from a variety of sources until

monitoring, modeling and scientific knowledge about the relationships between pollutants and visibility impairment were improved.
Congress added section 169B to the CAA in 1990 to address regional haze issues. The EPA promulgated a rule to address regional haze on July 1, 1999.[5] The Regional Haze Rule (RHR) revised the existing visibility regulations to integrate provisions addressing regional haze and established a comprehensive visibility protection program for Class I areas. The requirements for regional haze, found at 40 CFR 51.308 and 51.309, are included in the EPA's visibility protection regulations at 40 CFR 51.300-309. The EPA revised the RHR on January 10, 2017.[6]

The Clean Air Act requires each state to develop a SIP to meet various air quality requirements, including protection of visibility.[7] Regional haze SIPs must assure reasonable progress toward the national goal of achieving natural visibility conditions in Class I areas. A state must submit its SIP and SIP revisions to the EPA for approval. Once approved, a SIP is enforceable by the EPA and citizens under the CAA; that is, the SIP is federally enforceable. If a state elects not to make a required SIP submittal, fails to make a required SIP submittal or if we find that a state's required submittal is incomplete or not approvable, then we must promulgate a FIP to fill this regulatory gap.[8] Montana is on the path towards a SIP and working closely with the Region to make that happen as soon as practicable.

The project is in violation of the Clean Air Act.

Prescribed fire is an inefficient and relatively ineffective way to protect homes and communities during wildfires. As Dr. David Lindemayer recently summarized, "The peer-reviewed evidence is that burning forest miles from houses doesn't protect those houses" (Foley 2021). As discussed above, prescribed fires generally do not stop subsequent wildfires, and altering fire intensity is largely irrelevant to community safety because home ignitions during wildfires are rarely caused by direct contact with high-intensity fire (Cohen and Stratton 2008, Syphard et al. 2017). Instead, home fire-safety retrofits ("home hardening") offer the most effective ways to keep communities safe during wildfire. Yet the resources to help communities with fire-safety retrofits are currently quite limited compared to the government funding for prescribed fire and associated "fuel treatments" in wildlands. For example, in California's 2021 proposed budget for wildfire preparedness, less than 4% of the funding is directed to "community hardening" (LAO 2021). While prescribed burning adjacent to communities can potentially have some benefits, proposals to use large-scale prescribed fire across vast landscapes away from communities represent a remarkably indirect and inefficient way to protect houses when compared with the direct benefits of home retrofits.

Prescribed fire is inefficient for ecological restoration compared to managed wildfire. One positive outcome of the greater attention on prescribed fire is that it has contributed to growing recognition that fire is a necessary part of forests and other ecosystems, and that currently

many forests have a shortage of fire compared to levels prior to modern fire suppression.

Unfortunately, many advocates for prescribed fire rely on an outdated “good fire/bad fire” dichotomy that is out of step with the science. In this false dichotomy, prescribed fires are characterized as “good” because they are associated with low-intensity fire, whereas wildfires are characterized as “bad” because they are associated with mixed-intensity fire that includes some areas of high-intensity fire. However, there is a growing body of research showing that high-intensity fire has always been a part of forests and other ecosystems, and it produces ecological benefits by creating excellent wildlife habitat and stimulating nutrient cycling (DellaSala and Hanson 2015). In contrast, low-intensity fire associated with prescribed burning does not generate the habitat creation and the nutrient cycling associated with higher-intensity fire. Each type of fire intensity has its role in a mixed-intensity fire regime, and low-intensity fire is not a substitute for the benefits from some higher-intensity effects in forests.High-intensity fire has always been a part of forests and other ecosystems, and it produces ecological benefits.

Another myth repeated by some prescribed advocates is the erroneous notion that forests that previously experienced fire suppression will now “burn up” in all or mainly high-intensity fire when a wildfire occurs, unless those forests first get prescribed fire or other “fuel treatments.” But

multiple studies have shown that areas that experience wildfire following long periods of fire suppression still burn mainly at low and moderate intensity, along with some high-intensity patches that provide the benefits described above (Odion and Hanson 2008, Miller et al. 2012). In fact,research has found that forests with the longest fire exclusion actually burn at somewhat lower intensity (Odion et al. 2010). This is exciting news for efforts at ecological restoration because it means that large-scale prescribed fire or other “treatments” are not needed as a precondition to allowing mixed-intensity wildfire back into forests. Instead, managed wildfire offers a much more efficient way to restore fire to forests that currently have a shortage of fire, and this has economic and practical benefits. Managed wildfire (also known as wildland fire use) differs from fire suppression in that, rather than trying only to extinguish a wildfire, fire managers seek to shepherd the fire away from communities and into wildland areas where the fire will provide ecological benefits. This is less intensive and costly than full suppression. Likewise, managed wildfire differs from prescribed fire because the latter has an extensive planning process and often quite restrictive parameters before a prescribed fire ignition can occur, whereas managed wildfire works with natural fire ignitions to provide more fire where it is needed in a more expeditious manner.

This is not to say that prescribed fire does not have a role in fire policy, but instead that role has been overstated. Prescribed fire is a useful tool when there are special

circumstances where fine-scale control over fire is needed. In this regard, prescribed fire has a role equivalent to the role of a watering can. A watering can is a good tool for tending the plants around your house, but if you are facedwith a dry field in need of irrigation, it would be absurd to propose buying thousands of watering cans. Yet this is basically equivalent to current proposals relying mainly on prescribed fire to restore fire to vast areas. Instead, the right way to water a large field is through large-scale irrigation— a river, not a watering can—and the most efficient way to restore fire to large landscapes is through managed wildfire. Yet, despite its benefits, managed wildfire currently gets surprisingly little attention in current fire policy discussions, compared to prescribed fire.

Prescribed fire can be harmful.

Prescribed fire is sometimes called “good fire” by its proponents, but the reality is that, while it can be useful in some circumstances, prescribed fire can also cause ecological damage. One example is when prescribed fire policies get applied to non-forest ecosystems such as chaparral, Great Basin sagebrush, or pinyon-juniper woodlands. Research over the past few decades has established that these ecosystems naturally and historically burned infrequently, with several decades or even centuries between fires (Floyd et al. 2004, Baker 2006, Mensing 2006, Keeley and Zedler 2009, Baker and Halsey 2020). In these ecosystems, the use of prescribed fire can shorten fire-free intervals needed for slow-growing shrubs to re-

establish, and such fire conducted outside of the natural fire season can inhibit seed germination for many species while favoring growth of non-native plants that can be moreflammable (Parker 1987, Le Fer and Parker 2005, Baker 2006, Syphard et al. 2006).

Prescribed fire can also be harmful in forests, especially when done outside of the main fire season. Wildlife have evolved strategies to coexist with summer forest fires, but prescribed fires are often lit in the spring when bird eggs and nesting chicks cannot get away from fires (Hanson 2021). There can also be significant ecological damage when logging ("thinning") is treated as a prerequisite for prescribed fire. On national forests, this means that Forest Service projects involving prescribed fire can also include substantial amounts of logging that damages wildlife habitat. Furthermore, logging results in cut vegetation debris that then gets piled up and burned. The Forest Service is now calling this pile burning "prescribed fire," but it causes sustained burning in a concentrated location that can scorch and sterilize the soil, and it does not produce the beneficial post-fire wildlife habitat created during genuine forest fire restoration (Korb et al. 2004). In light of these potential harms, projects involving prescribed fire should not be exempted from proper environmental review.

Prescribed fire and cultural burning are not the same.

As attention on prescribed fire has grown in recent years, there has also been broader awareness that Native

Americans have long traditions of applying fire to the landin practices known as cultural burning. Cultural burning
was outlawed or severely restricted when federal and state policymakers imposed their wildfire suppression policies on Indigenous peoples. Now some Indigenous groups seek to restore their ability to do more cultural burning. Traditionally, burning has been done for a variety of purposes, including stimulating the growth of plants that are particularly useful to their communities, such as for basket-weaving or food production. In this regard, traditional cultural burning is notably different from current approaches to prescribed fire from the Forest Service and other agencies that primarily focus on trying to suppress forest fire intensity across vast areas. Yet, the Forest Service's approach to prescribed fire often gets conflated with traditional cultural burning in discussions of fire policy. This can result in cultural appropriation that superimposes Forest Service goals on Tribal practices. The evidence is clear that, prior to modern fire suppression policies, Native American cultural burning and mixed-intensity forest fires were both much more common than they are now (Odion et al. 2014, 2016, Vachula et al. 2019, Wahl et al. 2019). They coexisted, and one did not preclude the other. Both have been suppressed and marginalized by federal and state agencies.

Conclusion—The disappointing results of prescribed fire

When all is said and done, the actual results from broad-scale application of prescribed fire would likely be

disappointing for most people. Those who thought it would reduce fire would instead experience more fire and from large-scale prescribed burning. Those who are concerned about public safety would realize that communities would have been much safer if the money used to subsidize backcountry prescribed fires and associated “fuel treatments” had instead been focused on directly assisting with fire-safety home retrofits as part of a home-outward strategy. Those who want to help ecosystems would realize that managed wildfire offers a more efficient and practical way to restore fire to forests, whereas prescribed fire is often tied to increased logging. And those who want to support Tribes’ cultural burning would find traditional practices getting appropriated by federal and state agencies. While prescribed fire can have some benefits in special circumstances, it is important to not overstate the role of prescribed fire—a watering can should not pretend to be a river—or we risk missing more effective and cost-efficient solutions using managed wildfire, traditional cultural burning, and home fire-safety retrofits.

Please see the attached paper by Baker et al. 2023. This landmark study found a pattern of "Falsification of the Scientific Record" in government-funded wildfire studies. This unprecedented study was published in the peer-reviewed journal *Fire*, exposing a broad pattern of scientific misrepresentations and omissions that have caused a "falsification of the scientific record" in recentforest and wildfire studies funded or authored by the U.S. Forest Service with regard to dry forests of the

western U.S. Forest Service related articles have presented a falsified narrative that historical forests had low tree densities and were dominated by low-severity fires, using this narrative to advocate for its current forest management and wildfire policies.

However, the new study comprehensively documents that a vast body of scientific evidence in peer-reviewed studies that have directly refuted and discredited this narrative were either misrepresented or omitted by agency publications. The corrected scientific record, based on all of the evidence, shows that historical forests were highly variable in tree density, and included "open" forests as well as many dense forests. Further, historical wildfire severity was mixed and naturally included a substantial component of high-severity fire, which creates essential snag forest habitat for diverse native wildlife species, rivaling old-growth forests.

These findings have profound implications for climate mitigation and community safety, as current forest policies that are driven by the distorted narrative result in forest management policies that reduce forest carbon and increase carbon emissions, while diverting scarce federal resources from proven community wildfire safety measures like home hardening, defensible space pruning, and evacuation assistance."Forest policy must be informed by sound science but,

unfortunately, the public has been receiving a biased and inaccurate presentation of the facts about forest density and wildfires from government agencies," said Dr. William

Baker in their press release announcing the publication of their paper.
"The forest management policies being driven by this falsified scientific narrative are often making wildfires spread faster and more intensely toward communities, rather than helping communities become fire-safe," said Dr. Chad Hanson, research ecologist with the John Muir Project in the same press release. “We need thinning of small trees adjacent to homes, not backcountry management.”
"The falsified narrative from government studies is leading to inappropriate forest policies that promote removal of mature, fire-resistant trees in older forests, which causes increased carbon emissions and in the long-run contributes to more fires" said, Dr. Dominick A. DellaSala, Chief Scientist, Wild Heritage, a Project of Earth Island Institute concluded in the press release.
Please see the attached paper by Faison et al. 2023 that finds that unmanaged forests are the most resilient.
The Draft Decision Notice (DDN) and FONSI are therefor in violation of the purpose and need, NEPA, NFMA and the APA .

REMEDY
Withdraw the Draft Decision Notice and write an EIS that filly complies with the law or choose the No Action Alternative.

Roadless

We wrote in our comments:

Finally, the EA is a violation of the NEPA because the fact that these activities are being planned in the IRAs without and analysis of the impact of the project on wilderness characteristics and where they will be.

There is no explanation of why this project complies with the Roadless Rule. Page 6 of the draft EA states: Management that includes tree cutting would only proceed within inventoried roadless areas if the activity complies with the 2001 Roadless Rule. But there is no explanation on how the project complies with the roadless rule in violation of NEPA.

This is clearly a violation of the Roadless Area Conservation Rule, as the agency is imposing artificial management activities in areas that are to be maintained via natural processes. The scientific basis for implementing management actions in this IRA needs to be fully provided to the public. In particular, the massive increase of exotic grasses within an IRA is hardly a restoration activity.

Page 5 of the EA states:

Fireline construction may include removing vegetation and clearing all vegetation down to mineral soil using mechanical, ground-based equipment, or hand tools, including chainsaws. Fire lines would consist of narrow, hand-dug line (hand line) generally 2 to 4 feet wide or

wider, mechanically constructed lines ("dozer" lines) generally 12 to 14 feet wide. Fireline placement would be selected strategically in places that would be easiest to restore. All fireline would be rehabilitated. Fireline would be rehabilitated as needed to prevent erosion and unauthorized use. Fuel breaks may also be used and typically vary from 0-60 feet depending on vegetation type.

Are you building fire lines and fuel breaks in roadless areas using mechanical means such as motorized vehicles such as bulldozes the project is in violation of the roadless rule?

The EA iis unclear how the Forest Service will access the Project units in the Roadless Area. Although the Forest Service states that it will not build new roads in the Roadless Area, B2c:0005510, the transportation map does not show that Project units could be accessed by existing roads in the Roadless Area, and the Forest Service has avoided answering the question of how it will access those units, B2c:0005513. This Court recently addressed a similar issue. Hunters v. Marten, 470 F.Supp.3d 1151, 1167-1169 (D. Mont. 2020). This Court held: "It is simply not true that the Forest Service had no duty to communicate its transportation plan to the public. NEPA imposes upon the agency the duty to take a 'hard look' when it plans its actions and 'to provide for broad dissemination of relevant environmental information.'"

The Court further held:

[Plaintiffs] contend that the final EIS is inadequate because it is misleading. [].The Court agrees with the latter. Having already discussed at length why the Forest Service's treatment of the roadwork in the final EIS is inadequate and indicates bad faith, there is little more to say on the second issue. On remand, the Forest Service will be required to thoroughly develop its plan to bring heavy machinery into the roadless area.

The same type of analysis is necessary in this case as well. For all of these reasons, the Project violates the Roadless Rule and/or the Project EA fails to take hard look and provide accurate information and analysis to the public regarding Roadless Rule compliance, in violation of the Roadless Rules NFMA, NEPA and the APA.

Page 6 of the EA states: "Management that includes tree cutting would only proceed within inventoried roadless areas if the activity complies with the 2001 Roadless Rule."

Since the preferred alternative calls for bulldozing fire lines and fuel breaks please demonstrate that the project complies with the roadless rule since using bulldozers in inventoried roadless areas clearly is a violation of the roadless rule.

Page 36 of the draft EA states:

"Project activities, including helicopter use, would temporarily disturb individuals and disrupt grizzly bear movements during implementation, though project treatments will be scheduled to ensure undisturbed areas are available to wildlife to the extent practicable, and implementation will cease if grizzly bears are discovered within or adjacent to the treatment area. Project activities will also be restricted within important grizzly bear habitats during spring. Areas of untreated forest would remain interspersed with treated stands year-round, providing a variety of alternate local travel routes. Connectivity would be facilitated by the distribution of inventoried roadless areas in the project area."

Since the preferred alternative calls for "treating" or logging, burning, and bulldozing roadless areas, the above paragraph is untrue. The last sentence in the above paragraph implies that you are staying our of roadless areas when you are not. The preferred alternative proposes 2.3 million acres of the 2.6 million acre HLCNF so the project essentially calls for removing 88% of the understory or hiding cover in the entire HLCNF. Therefore above paragraph is incorrect and in violation of NEPA.

Page 17 of the wildlife BE states:

"Connectivity is a key factor in ensuring distribution of grizzly bears throughout the Northern Continental Divide Ecosystem, as well as maintaining genetic health of the

Northern Continental Divide Ecosystem and other grizzly bear populations (for example, the Greater Yellowstone Ecosystem). Human activities such as roads and developments are the primary causes of grizzly bear habitat fragmentation {Servheen, 2001, Identification and management of linkage zones for grizzly bears between the large blocks of public land in the northern Rocky Mountains}, which can limit grizzly bear movement within and among habitats and have the potential to limit the degree to which grizzly bear populations in Montana and the United States are both genetically and demographically connected.

Connectivity is facilitated in the project area through a series of inventoried roadless areas distributed throughout the geographic areas. The intervening matrix may pose impediments in heavily roaded areas. Table 9. shows motorized route information within the 21 GBAUs. Table 10, which follows, shows motorized route information within the 15 bear management subunits."

The problem with the above state is the project calls for removing trees, clearcutting, building fire lines and fuel breaks using mechanical means in roadless aress in violation of NEPA, NFMA, the Roadless Rule, the ESA and the APA.

Please analyze the wilderness characteristic of the both the inventoried and uninventoried areas and wilderness study areas in the project area. The roadless areas are

proposed as wilderness in the Northern Rockies Ecosystem Protection Act, S. 1531.

The Forest Service recognizes the value of forestland unencumbered by roads, timber harvest, and other development. Sometimes these areas are known as "inventoried roadless areas" if they have been inventoried through the agency's various Roadless Area Review Evaluation processes, or "unroaded areas" if they have not been inventoried but are still of significant size and ecological significance such that they are eligible for congressional designation as a Wilderness Area.

Roadless areas provide clean drinking water and function as biological strongholds for populations of threatened and endangered species. Special Areas; Roadless Area Conservation; Final Rule, 66 Fed. Reg. 3,244, 3,245 (Jan. 12, 2001) (codified at 36 C.F.R. Part 294). They provide large, relatively undisturbed landscapes that are important to biological diversity and the long- term survival of many at-risk species. Id. Roadless areas provide opportunities for dispersed outdoor recreation, opportunities that diminish as open space and natural settings are developed elsewhere. Id. They also serve as bulwarks against the spread of non-

native invasive plant species and provide reference areas for study and research. Id.

Other values associated with roadless areas include: high quality or undisturbed soil, water, and air; sources of public drinking water; diversity of plant and animal

communities; habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land; primitive, semi-primitive non-motorized, and semi-primitive motorized classes of dispersed recreation; reference landscapes; natural appearing cultural properties and sacred sites; and other locally identified unique characteristics.

Page 1 of the Roadless Report for this project states: There would be no openings over 75 acres (forest plan standard) in inventoried roadless areas. Refer to the vegetation report in the project record.

Which means the proposed alternative calls for clearcuts up to 75 acres in size in roadless areas.

Page 6 of the Roadless Report states:

- ***Issues Addressed***
  The proposed action includes activities that are not prohibited under the 2001 Inventoried Roadless Rule (Roadless Rule) such as prescribed fire or activities falling under one or more exceptions allowing the cutting, sale, or removal of "generally small diameter tree cutting". The roadless areas, proposed acres and anticipated allowable treatments exceptions to prohibitions for these areas are outlined below:

    - ***294.13 (b)(1)(ii) to maintain or restore the characteristics of ecosystem composition and***

structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period, along with prescribed fire, a non-prohibited activity.

- ***294.13 (b)(2) the cutting, sale or removal of timber is incidental to implementation of management activity not otherwise prohibited***

- ***No temporary roads are being proposed in inventoried roadless areas.***

How many miles of temporary roads will be built outside if roadless areas?

Will you be using motorized vehicles in roadless areas in violation of the roadless rule?

The Forest Service's representations and/or omissions in the EA, and its authorizations regarding tree cutting in an Inventoried Roadless Area, violate NEPA, NFMA, the ESA, the APA, and the Roadless Rule.

In the late 1990s, the Forest Service reached several findings regarding roads on National Forest lands: (1) use of the National Forests had "shifted substantially toward recreation," (2) there were insufficient funds to

maintain existing roads, and (3) there was an "accumulation of new scientific information" suggesting that "ecological impacts from existing roads are more extensive than previously thought." Alaska v. USDA, 273 F.Supp.3d 102, 108 (D.D.C. 2017)(quoting 63 Fed. Reg. 4350, 4350 (Jan. 28, 1998)). Subsequently, on January 12, 2001, the Forest Service published the final Roadless Rule. 66 Fed.

Reg. 3244 (Jan. 12, 2001). The Roadless Rule prohibits road construction and tree cutting in designated "Inventoried Roadless Areas" subject to limited exceptions. See Alaska, 273 F.Supp.3d at 108.

For over 15 years, the Roadless Rule was the subject of litigation. See, e.g., Kootenai Tribe of Idaho v. Veneman, 313 F.3d 1094, 1126 (9th Cir. 2002); California ex rel. Lockyer v. USDA., 575 F.3d 999, 1007 (9th Cir. 2009); Wyoming v. USDA, 661 F.3d 1209, 1272 (10th Cir. 2011); Organized Vill. of Kake v. USDA, 795 F.3d 956, 962 (9th Cir. 2015) (en banc); Alaska, 273 F.Supp.3d at 108–12. The Roadless Rule withstood these legal challenges. In relevant part, regarding the prohibition on tree cutting, the Roadless Rule mandates:

Prohibition on timber cutting, sale, or removal in inventoried roadless areas.

(a) Timber may not be cut, sold, or removed in inventoried roadless areas of the National Forest System, except as provided in paragraph (b) of this section.

(b) Notwithstanding the prohibition in paragraph (a) of this section, timber may be cut, sold, or removed in inventoried roadless areas if the Responsible Official determines that one of the following circumstances exists. The cutting, sale, or removal of timber in these areas is expected to be infrequent.

(1) The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the roadless area characteristics as defined in § 294.11.

(i) To improve threatened, endangered, proposed, or sensitive species habitat; or

(ii) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;

(2) The cutting, sale, or removal of timber is incidental to the implementation of a management activity not otherwise prohibited by this subpart;

... .
36 C.F.R. §294.13 (2005)(emphases added).

The Roadless Rule further explains the meaning of the phrase "incidental to" in subsection (b)(2) above as follows:

Paragraph (b)(2) allows timber cutting, sale, or removal in inventoried roadless areas when incidental to implementation of a management activity not otherwise prohibited by this rule. Examples of these activities include, but are not limited to trail construction or maintenance; removal of hazard trees adjacent to classified road for public health and safety reasons; fire line construction for wildland fire suppression or control of prescribed fire; survey and maintenance of property boundaries; other authorized activities such as ski runs and utility corridors; or for road construction and reconstruction where allowed by this rule.

66 Fed. Reg. 3258.

In this project, the Project area is located though out the Helena-Lewis and Clark National Forest including in Inventoried Roadless Area.

B2b:0004747. The Project allows tree-cutting in Inventoried Roadless Areas across the forest.

The problem is there is no analysis showing that the entire Helena-Lewis and Clark National Forest is outside of the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period.

It is unclear whether the Forest Service will be reconstructing old roads, using illegal user-created roads, or using roads already closed by the Travel Plan in the Inventoried Roadless Area in order to conduct these

activities; the Project EA only states that, "No roads would be constructed in roadless areas."

There is no explanation on how bulldozes that will be used to build wirelines will get into roadless areas, nor how the fire lines and fuel breaks will no be turned into illegal roads other than the fire lines and fuel breaks will be restored. What does restored mean?

One exception to the ban on tree-cutting in a Roadless Area is the allowance for tree cutting when it "is needed . . . [t]o maintain or restore the characteristics of ecosystem composition and structure . . . within the range of variability that would be expected to occur under natural disturbance regimes. . . ." 36 C.F.R. §294.13 (b)(1)(ii). Thus, in order to determine whether the "outside historic range of variability" exception applies, it is necessary to compare the existing condition to the historic range.

There is no mention of this in the EA or the Roadless Evaluation.

Tree-cutting is not "incidental to" another management activity; it is the management activity. The Forest Service fails to acknowledge that the Roadless Rule provides a narrow definition of the phrase "incidental to" in the (b)(2) exemption:

Paragraph (b)(2) allows timber cutting, sale, or removal in inventoried roadless areas when incidental to implementation of a management activity not otherwise prohibited by this rule. Examples of these activities

include, but are not limited to trail construction or maintenance; removal of hazard trees adjacent to classified road for public health and safety reasons; fire line construction for wildland fire suppression or control of prescribed fire; survey and maintenance of property boundaries; other authorized activities such as ski runs and utility corridors; or for road construction and reconstruction where allowed by this rule.

66 Fed. Reg. 3258.

Every one of these examples in the roadless rule that allows exceptions shows that the management activity itself is not any form of vegetation management, i.e. tree-cutting – instead the management activities are things like trail management, road management, firefighting, land surveys, ski runs, utility corridors, or lawful road construction. In contrast, here the management activity itself is vegetation management, i.e. tree-cutting such as clearcuts as big as 75 acres which is a violation of the roadless rule.

The Forest Service's interpretation of exemption (b)(2) is contrary to the explanation of "incidental to" in the Roadless Rule, and if adopted, would swallow the rule. The Forest Service could simply avoid the tree-cutting ban by labeling every tree-cutting activity in a Roadless Area as something other than tree-cutting – such as "restoration" – and thereby circumvent the ban with euphemisms. This is clearly not the intent of the Roadless

Rule. 66 Fed. Reg. 3258. Accordingly, the (b)(2) exemption does not apply here.

Page 12 of the Roadless Report for this project states: Cumulative Effects of the Proposed Action

"Cumulative effects to roadless resources were considered within the Forestwide Prescribed Fire Project area."

But page 36 of the EA states:

"Project activities, including helicopter use, would temporarily disturb individuals and disrupt grizzly bear movements during implementation, though project treatments will be scheduled to ensure undisturbed areas are available to wildlife to the extent practicable, and implementation will cease if grizzly bears are discovered within or adjacent to the treatment area. Project activities will also be restricted within important grizzly bear habitats during spring. Areas of untreated forest would remain interspersed with treated stands year-round, providing a variety of alternate local travel routes. Connectivity would be facilitated by the distribution of inventoried roadless areas in the project area."

The last sentence of the above paragraph: "Connectivity would be facilitated by the distribution of inventoried roadless areas in the project area." contradicts what the Roadless Report states on page 12: Cumulative effects to roadless resources were considered within the Forestwide Prescribed Fire Project area.

Page 14 of the Terrestrial Wildlife Biological Evaluation (BE) also assumes roadless areas will be left alone. It states:

"Blocks of roadless habitat remain important, however, as areas where bears can avoid human activity."

Page 14 of the Wildlife BE also states: "Connectivity is facilitated in the project area through a series of inventoried roadless areas distributed throughout the geographic areas."

Page 57 of the Wildlife BE also states: "Implementation of the project could affect linkage habitat for both lynx and snowshoe hare at local scales. However, for lynx, linkage habitat at the scale of the project would remain intact due to the abundance and distribution of inventoried roadless areas across the mountain ranges. The project would not compromise the ability of lynx to remain connected."

Contrast this with page 12 of the Roadless Report which states: "Impacts on the landscape are likely to cover a broader landscape and include more extensive areas of fireline construction as applicable as part of the burn plan and retardant application. In addition, trail and area closures are likely to be maintained over a longer period, impacting the public's ability to enjoy these roadless landscapes and impacting local economies."

Extensive fire lines over a long period of time is an extensive impact that as not been analyzed.

How do clearcuts as big as 75 acres not compromise the ability of lynx, wolverines, and girlies to remain connected?

Page 13 of the Roadless Report states:

"The long-term cumulative effects of small-diameter-timber hand cutting activities and fuels treatments within the roadless area would make travel into and out of the area more accessible and easier for visitors; therefore, it is possible assume there would be an increase in the human presence and visitation within the area. Increased access and visitation have the potential to reduce one's sense of solitude and primitiveness. In addition, prescribed fire treatments may cause an increase in noxious weed infestations."

Therefore the EA is in violation of NEPA, the ESA, the APA and NFMA for not considering the cumulative impacts on wildlife from logging and burning roadless areas.

Page 13 of the Roadless Report states: "Continued suppression of wildfire could undermine the ability of managers to effectively, and safely, suppress wildfire in the future. Therefore, prescribed fire would allow managers to safely and effectively manage natural events in the future. This may also lead to increased

homogeneity on the landscape as aspen stands and conifer stands develop without fire."

Please analyze an alternative that would reduce fire suppression in roadless areas and remote roaded areas since the EA concludes that fire suppression is a problem.

Will the HLCNF continue to suppress fires?

Page 14 of the Roadless Report states:

"Proactive treatment activities on the landscape would be intended to mimic the natural occurrence of (low-intensity?) wildfire. Therefore, proposed treatments would not have long-term negative impacts on any future wilderness designation(s) or be detrimental to wilderness characteristics. "

This is not true, both Schoennagel et al. 2004 (attached) states on page 666: We conclude that large, infrequent stand- replacing fires are "business as usual" in this forest type, not an artifact of fire suppression. Therefore the EA is in violation of NEPA and is also violating the purpose and need because of its assumptions that fire suppression has been the problem.

The Forest Service responded:

Access: Fireline placement would be selected strategically in places that would be easiest to restore. All fireline would be rehabilitated to prevent erosion and unauthorized use.

Designated Areas: Project activities will occur in all designated areas except Designated Wilderness and Research Natural Areas. Activities will be consistent with the 2021 Forest Plan components associated with the designations.

Inventoried Roadless Areas: The Roadless Rule 36 CFR Part 294 Paragraph (b)(2) allows timber cutting, sale, or removal in inventoried roadless areas when incidental to implementation of a management activity not otherwise prohibited by this rule. Examples of these activities include but are not limited to trail construction or maintenance; removal of hazard trees adjacent to classified roads for public health and safety reasons; fireline construction for wildland fire suppression or control of prescribed fire; survey and maintenance of property boundaries; other authorized activities such as ski runs and utility corridors; or for road construction and reconstruction where allowed by this rule. No road construction is proposed in roadless areas.

The roadless report analyzed effects to wilderness characteristics for forestwide inventoried roadless areas, recommended wilderness and wilderness study areas. Direct and indirect effects were analyzed as well as wilderness characteristics. The project is directly in accordance with CFR 294.13 (b)(1)(ii) which

allows for management in roadless areas in order to maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period, along with prescribed fire, a non-prohibited activity. Prescribed fire treatments would restore ecosystem composition and structure by reducing existing fuel loading, stimulating vegetation that is adapted to periodic burning, and creating patches of natural regeneration. Treatments would re-establish fire to mimic natural disturbance on the landscape and maintain/enhance ecological communities that have been in decline. No road construction or reconstruction is proposed in the inventoried roadless areas or elsewhere in the project area.

The proposed action would help create a mosaic of vegetation and fuel structure to be more resistant and resilient to wildfire. Any units within the roadless areas would focus on maintaining or restoring the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes, or to reduce high severity fire in wildland-urban interface areas. In both the Silviculture Report and Fire, Fuels, and Air Quality Report, the total acres within the inventoried roadless areas and roadless

expanses are used to place into context the vegetation conditions and magnitude of proposed treatments.

The Forest Service recognizes the value of forestland unencumbered by roads, timber harvest, and other development. Sometimes these areas are known as "inventoried roadless areas" if they have been inventoried through the agency's various Roadless Area Review Evaluation processes, or "unroaded areas" if they have not been inventoried but are still of significant size andecological significance such that they are eligible for congressional designation as a Wilderness Area. Roadless areas provide clean drinking water and function as biological strongholds for populations of threatened and endangered species. Special Areas; Roadless Area Conservation; Final Rule, 66 Fed. Reg. 3,244, 3,245 (Jan. 12, 2001) (codified at 36 C.F.R. Part 294). They provide large, relatively undisturbed landscapes that are important to biological diversity and the long- term survival of many at-risk species.

Roadless areas provide opportunities for dispersed outdoor recreation, opportunities that diminish as open space and natural settings are developed elsewhere. Id. They also serve as bulwarks against the spread of non-native invasive plant species and provide reference areas for study and research. Id.

Other values associated with roadless areas include: high

quality or undisturbed soil, water, and air; sources of public drinking water; diversity of plant and animal communities; habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land; primitive, semi-primitive non-motorized, and semi-primitive motorized classes of dispersed recreation; reference landscapes; natural appearing cultural properties and sacred sites; and other locally identified unique characteristics.

The Roadless Rule mandates:
Prohibition on timber cutting, sale, or removal in inventoried roadless areas.
(a) Timber may not be cut, sold, or removed in inventoried roadless areas of the National Forest System, except as provided in paragraph (b) of this section.
(b) Notwithstanding the prohibition in paragraph (a) of this section, timber may be cut, sold, or removed in inventoried roadless areas if the Responsible Official determines that one of the following circumstances exists. The cutting, sale, or removal of timber in these areas is expected to be infrequent.
(1) The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the roadless area characteristics as defined in § 294.11.
(i) To improve threatened, endangered, proposed, or sensitive species habitat; or
(ii) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of

uncharacteristic wildfire effects, within the range ofvariability that would be expected to occur under natural disturbance regimes of the current climatic period;
(2) The cutting, sale, or removal of timber is incidental to the implementation of a management activity not otherwise prohibited by this subpart;
... .
36 C.F.R. §294.13 (2005)(emphases added).
The Roadless Rule further explains the meaning of the phrase "incidental to" in subsection (b)(2) above as follows:
Paragraph (b)(2) allows timber cutting, sale, or removal in inventoried roadless areas when incidental to implementation of a management activity not otherwise prohibited by this rule. Examples of these activities include, but are not limited to trail construction or maintenance; removal of hazard trees adjacent to classified road for public health and safety reasons; fire line construction for wildland fire suppression or control of prescribed fire; survey and maintenance of property boundaries; other authorized activities such as ski runs and utility corridors; or for road construction and reconstruction where allowed by this rule.

66 Fed. Reg. 3258.
Are the roadless areas in the project area currently within the natural historic range of variability? Is the project area within natural range for wildfire conditions? Will this

prescribed Fire and logging Project substantially alter the Roadless characteristics in the inventoried roadless areas within the project area?

Use of an EA for this project is also invalid because the proposed vegetation treatments would occur within Inventoried Roadless Areas (IRA). This qualifies as an extraordinary circumstance that invalidates use of a EA. It is the existence of a cause- effect relationship between a proposed action and the potential effects on these resource conditions and if such a relationship exists, the degree of the potential effects of a proposed action on these resource conditions that determine whether extraordinary circumstances exist (36 CFR 220.g(b).

In relevant part, regarding the prohibition on tree cutting, the Roadless Rule mandates: Prohibition on timber cutting, sale, or removal in inventoried roadless areas. 1. Timber may not be cut, sold, or removed in inventoried roadless areas of the National Forest System, except as provided in paragraph (b) of this section. 2. Notwithstanding the prohibition in paragraph (a) of this section, timber may be cut, sold, or removed in inventoried roadless areas if the Responsible Official determines that one of the following circumstances exists. The cutting, sale, or removal of timber in these areas is expected to be infrequent. 1. The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the roadless area characteristics as defined in § 294.11. 1. To improve

threatened, endangered, proposed, or sensitive species habitat; or 2. To maintain or restore the characteristics ofecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;

2. The cutting, sale, or removal of timber is incidental to the implementation of a management activity not otherwise prohibited by this subpart; 36 C.F.R. §294.13 (2005).
The Roadless Rule further explains the meaning of the phrase "incidental to" in subsection (b)(2) above as follows: Paragraph (b)(2) allows timber cutting, sale, or removal in inventoried roadless areas when incidental to implementation of a management activity not otherwise prohibited by this rule. Examples of these activities include but are not limited to trail construction or maintenance; removal of hazard trees adjacent to classified road for public health and safety reasons; fire line construction for wildland fire suppression or control of prescribed fire; survey and maintenance of property boundaries; other authorized activities such as ski runs and utility corridors; or for road construction and reconstruction where allowed by this rule.

Page 8 of the EA states: ***This project would allow commercial activity so that, for instance, small post and pole or commercial firewood sales could be offered to help offset the extraordinary cost of fuels work where it's***

needed before we can safely reintroduce fire to restore these landscapes.

The Project EA is not clear how the Forest Service will access those units. It is unclear whether the Forest Service will be reconstructing old roads, using illegal user-created roads, or using roads already closed by the Travel Plan in the Inventoried Roadless Area in order to conduct these activities. Please clarify what roads will be used..The proposed action includes the construction of fire lines using mechanical means which means a road is need to get the bulldozers in roadless areas to build the fore lines.
Logging all trees less that 10 inches dbh is not "incidental to" another management activity; it is the management activity.

The Forest Service fails to acknowledge that the Roadless Rule provides a narrow definition of the phrase "incidental to" in the (b)(2) exemption:
Paragraph (b)(2) allows timber cutting, sale, or removal in inventoried roadless areas when incidental to implementation of a management activity not otherwise prohibited by this rule. Examples of these activities include but are not limited to trail construction or maintenance; removal of hazard trees adjacent to classified road for public health and safety reasons; fire line construction for wildland fire suppression or control of prescribed fire; survey and maintenance of property boundaries; other authorized activities such as ski runs and utility corridors; or for road construction and reconstruction where allowed

by this rule. 66 Fed. Reg. 3258. Every one of these examples shows that the management activity itself is not any form of vegetation management, i.e. tree-cutting - instead the management activities are things like trail management, road management, firefighting, land surveys, ski runs, utility corridors, or lawful road construction. In contrast, here the management activity itself is vegetation management, i.e. tree cutting. The Forest Service's interpretation of exemption (b)(2) is contrary to the explanation of "incidental to" in the Roadless Rule, and if adopted, would swallow the rule. The Forest Service couldsimply avoid the tree-cutting ban by labeling every tree-cutting activity in a Roadless Area as something other than tree-cutting - such as “restoration" - and thereby circumvent the ban with euphemisms. This is clearly not the intent of the Roadless Rule. 66 Fed. Reg. 3258. Accordingly, the (b)(2) exemption does not apply here

The Forest Service did not show that roadless areas were outside the normal range of variability. In fact the ForestService wrote on page 8 of the IRA Characteristics Analysis:
Past activities such as fire suppression, mining, livestock grazing, and recreation may have had some effects on plant and animal communities; however, with minimal roaded access, impacts to species diversity and individual populations resulting from past projects or actions in general is expected to be insignificant and localized. Habitat for TES and species dependent on large undisturbed areas of land

The majority of the TES with suitable habitat on the HLCNF are known to occur within or immediately adjacent to the IRAs within the project area.
Since the majority of suitable habitat for TES species is found in roadless areas in the HLCNF, it seems that the habitat is fine.

The Roadless Report does not show that the roadless areas are outside the normal range of variability.
The Forest Service has not demonstrated that the project complies with the roadless rule and appears to be violating the roadless rule in violation of NFMA, NEPA, and the APA.
The agency is violating the Roadless Area Rule by burning in inventoried roadless lands; specific measurable criteria were not provided as to why these cutting
and burning will promote natural processes and wildlife.
The agency is violating the Roadless Area Rule by proposing prescribed burning to control fire in adjacent landscapes; this rationale would allow the treatment of all IRAs and make the purpose of the Roadless Area Conservation Rule meaningless, since the main function of IRAs would be fire management of adjacent landscapes.

REMEDY
Withdraw the Draft Decision Notice and FONSI and write an EIS that fully complies with the roadless rule.
We wrote in our comments:

Juniper woodlands are also important habitat for many nongame birds (Coop and Magee undated; Reinkensmeyer 2000; Magee et al. 2019).. Coop and Magee (undated) noted that juniper removal treatments substantially reduced the occupancy of pinon-juniper specialists and conifer obligate species, including the pinyon jay. There One such species, the pinyon jay, is a species of conservation concern who is associated with juniper habitats (Boone et al. 2018); this paper warns of the detrimental impacts to this declining species due to juniper thinning projects. More recently, Magee et al. (2019) reported that juniper removal projects resulted in decreased occupancy of many associated bird species, including the pinyon jay. These research reports are consistent with a 2000 report by Reinkensmeyer that juniper woodlands provide important habitat for many bird species, with bird species diversity and density increasing as woodlands progress into old growth juniper. Given the documented high value of old growth juniper forests to wildlife, the EA at a minimum needed to discuss how old growth juniper is being managed in this landscape. The Intermountain Region recognizes old growth juniper (Hamilton 1993). How much old growth juniper is believed as essential for optimal nongame bird management, and where is this old growth juniper going to be maintained in this IRA and project?

The Forest Service responded:

All treatments would improve the resistance of old forest to high severity fire if old forest is present. With respect to juniper within the project area, prescribed fire may be used in order to reduce stocking in areas where juniper abundance is outside of desired conditions and to treat juniper encroachment of grasslands, shrublands, and forested area. Prescribed fire treatments in areas where juniper is present would typically occur in areas where natural fire regimes are considered to be frequent and/or juniper is occurring outside of the range of the desired conditions. A request was made for an analysis on how to make current old growth more resilient. While this was addressed by the forest plant revision final environmental impact statement (Volume 1, pages 219-246) in more detail, we did add critical information related to old forests and resistance to disturbances like wildfire in the introduction.

The Forest Service has a long history of killing juniper trees which provide habitat for pinyon jays.

Baker and Shinneman (2004), Bauer and Weisberg (2009), and Floyd et al. 2004) that demonstrate that the fire cycle in juniper woodlands is very long, up to 400 years or longer, and has not been impacted by any fire suppression actions since settlement. In addition, Coop and Magee (Undated) noted that low-severity fire is not generally considered to have played an important role in shaping patterns of pre- settlement pinyon-juniper

woodland structure, where fire regimes were mostly characterized by rare stand-replacing fire; as a result, they noted that direct management interventions such as thinning or fuel reductions may not represent ecological restoration.

There is no information in the scoping notice that defines define why a lack of fire has degraded wildlife habitat. One has to assume that the presence of juniper woodlands is considered an adverse impact on wildlife, and if burnedup, would improve wildlife habitat. We have cited a number of publications, just as examples, that in fact identify the high value of juniper woodlands to wildlife. This value includes forage for mule deer, a species that is to be emphasized on this identified winter range. The value of juniper species to mule deer was identified long ago. For example, Lovaas (1958) reported that the primary winter forage for mule deer in the Little Belt Mountains of Montana were several species of juniper. More recently, this importance was again identified in a published research article. Coe et al. (2018) reported that juniper trees are important to mule deer on their winter ranges in Oregon. There is no information in the notice that indicates why juniper removal will benefit mule deer or elk or any wildlife.

Juniper woodlands are also important habitat for many nongame birds (Coop and Magee undated; Reinkensmeyer 2000; Magee et al. 2019).. Coop and Magee (undated) noted that juniper removal treatments substantially reduced the occupancy of pinon-juniper specialists and conifer obligate species, including the

pinyon jay. There One such species, the pinyon jay, is a species of conservation concern who is associated withjuniper habitats (Boone et al. 2018); this paper warns of
the detrimental impacts to this declining species due to juniper thinning projects. More recently, Magee et al. (2019) reported that juniper removal projects resulted in decreased occupancy of many associated bird species, including the pinyon jay. These research reports are consistent with a 2000 report by Reinkensmeyer that juniper woodlands provide important habitat for many bird species, with bird species diversity and density increasing as woodlands progress into old growth juniper. Given the documented high value of old growth juniper forests to wildlife, the scoping notice at a minimum needed to discuss how old growth juniper is being managed in this landscape. The Intermountain Region recognizes old growth juniper (Hamilton 1993). How much old growth juniper is believed as essential for optimal nongame bird management, and where is this old growth juniper going to be maintained in this IRA and project?
The agency does not address the likely adverse impacts of climate change on the persistence of juniper woodlands or values of forests as carbon sinks.There is no mention in the scoping notice about how
climate change could affect the long-term persistence of juniper woodlands. If the persistence of these woodlands will be adversely impacted by climate change, juniper thinning operations will promote the long-term demise of

this important conifer. This impact was noted by Coop and Mcgee (Undated). Indeed, a recent newspaper article by Maffly (2018) reported on the mystery of why junipers are dying in Utah; widespread loss of junipers would have far- reaching consequences for southern Utah's fragile desert environments.

In addition to the concern about juniper mortality resulting from climate change, we also note that forest thinning in general exacerbates climate change. Milman (2018) recently reported on this issue, noting that scientists say halting deforestation is just as urgent as reducing emissions to address climate change, given the function they provide as a carbon sink. Forest thinning reduces this carbon sink function.

The impact of juniper treatments on the spread of noxious weeds was generally ignored and downplayed in the scoping notice, even though this is very likely a significant adverse impact of this proposal.There is a considerable awareness today regarding the
problems of noxious weed infestations on public lands. One activity that is clearly promoting noxious weeds are fuels reduction and prescribed burning projects. We cite only a few examples at this time. One example is a Joint Fire Science Report by Coop and Magee (Undated), where they note that fuels and juniper reduction treatments resulted in rapid, large and persistent increases in the frequency, richness and cover of 20 non-native plant species including cheatgrass; exotic plant expansion appeared linked to the disturbance associated with treatment activities, reduction in tree canopy, and

alterations to ground cover; exotic species were much more frequently encountered at treated than control sites, occurring at 86% of sample plots in treatments and 51% of untreated sample plots; richness of exotic species in treatments was more than double that of controls. What is also interesting in this study is that cheatgrass showed a negative effect of tree canopy, which means that cheatgrass was benefited by canopy removal. They noted that models for chestgrass alone and all non- native species together indicate strong negative associations with tree canopies, indicating that increased light availability, or perhaps below-ground resources such as moisture ornitrogen, enhance colonization and growth in treatments. Increases in exotic plant species in treatment areas was one of the reasons these researchers concluded that managers need to be cautious about implementing treatments in light of the persistent, negative ecological impacts that accompany woodland thinning in pinyon pine- juniper ecosystems; this includes an increase in fire frequency.

Kerns and Day (2014) also reported that juniper treatments resulted in at least a short-term conversion of juniper woodlands to an exotic grassland. And Kerns (undated)

reported similar findings in another Joint Fire Science Program report; she stated that it is a significant challenge for land managers to apply thinning and burning fuel treatments in a manner that does not exacerbate existing weed and associated resource problems due to the reduction of ecological resistance that

fuel reduction activities created, combined with the aggressive nature of exotic species present. Kerns also noted that weed problems were also caused in slash pile burning, which is planned for the Rowley Canyon project.Perchemlides et al. (2008) reported similar problems with
juniper thinning projects in Oregon; exotic annual grass cover increased, whereas cover by native perennial grasses did not, in treatment areas; they noted that fuel reduction thinning may have some unintended negative impacts, including expansion of exotic grasses, reduction in native perennial species cover, persistent domination of annuals, and increased surface fuels.
The scoping notice failed to provide any documentation that conversion of juniper woodlands to grasslands, including cheatgrass, improves habitat for all wildlife species.
The agency notes that the project will not only reduce juniper, but various shrubs as well. Although we noted above that juniper woodlands have a very high value to many wildlife species, it is not clear that replacing juniper with grasses, including cheatgrass, balances out the loss of wildlife species removed due to juniper removal by replacement with other wildlife species that use only grasses as habitat. For example, the scooping notice did not identify that mule deer on this winter range use grasses as winter forage. The value of cheatgrass to elk in the winter is also not demonstrated. Cheatgrass seeds areextremely sharp, and use by elk in the winter seems unlikely. Cheatgrass use by wildlife in the summer is also

unlikely after early spring, since this grass cures out by summer. The seeds of cheatgrass are also responsible to mortality through blinding of grassland birds (McCrary and Bloom 1984).

General comments on the proposal are as follows:

Parts of this very large project area are big game winter range as per the Forest Plan. The scoping notice failed to define what the specific habitat objectives are for this winter range, including hiding and thermal cover, as well as forage. Juniper and sagebrush are key forage plants for big game on winter ranges. What are the objectives for these forage species? The Forest Plan direction for this management area is binding. If the agency is going to claim that the Forest Plan is being implemented, you need to specifically define how this is being done, instead of simply claiming that juniper and shrub removal is improvement on big game winter range. Also, the science and monitoring behind this claim need to be provided. Currently mule deer populations have been in decline across the western U.S.. We haven't seen any science thatreported increases of mule deer populations following removal of juniper and shrubs on their winter ranges.

One issue that is generally ignored in the scoping document is what shrubs are present, and will be targeted for masticating and burning. Do these control efforts include sagebrush? There is extensive documentation that sagebrush is highly valuable to both elk and deer on winter ranges (Wambolt 1998, Petersen 1993). Removing sagebrush to increase grasses on winter range, as is suggested in the scoping notice, does not promote mule

deer and elk. Sagebrush has a high protein content of almost 13% in the winter, while dormant grasses have a protein content of less than 4% (Peterson 1993). There can be no valid reason to remove sagebrush and replace it with grasses for big game winter forage. The actual replacement species the agency claims are going to be managed for are never identified. But at a minimum, the rationale for removing shrubs and replacing them with grasses on winter range needs to be documented, as is required by the NEPA.

The claim that this project will increase diversity is pure unsupported rhetoric. There is no definition as to what constitutes diversity. What criteria are being used tomeasure diversity, and why isn't this information provided

to the public? For example, what is the criteria for a diversity of age classes in juniper woodlands or sagebrush, and what is this based on? The NEPA requires that the agency provide reliable, valid information to the public on projects. This claim that removing juniper and shrubs will improve diversity is a clear violation of the NEPA, as there is no actual basis for it. Worse, it is not clear why eliminating trees and shrubs increases diversity as per the standard definitions. What science claims that a grassland has higher habitat diversity than a woodland or forest, or shrubland? One likely factor driving the proposed project is not promotion of big game species and wildlife, but instead is being done for livestock. This may be why there is no actual discussion in the scoping notice of current livestock grazing practices in this landscape.

The claim that thinning and removing juniper will increase resiliency of this area is highly questionable. First, these forests are not highly flammable as per the current science. Second, thinning will likely increase flammability by increasing wind speeds and vegetation drying due to a reduction of shade. Third, flammability will surely be increased over current conditions due to anincrease of grasses, including exotic species as cheatgrass. The scoping notice did not provide any actual science to indicate that thinning will reduce fires, and thereby increase “resiliency” of this winter range.

The scoping notice did not provide any monitoring data on the effect of the fire on as winter range, or how this fire affected the extent of exotic vegetation, such as cheatgrass and other weeds. Since the proposed actions will be somewhat similar in effect, it would seem to be important for the agency to provide this information to the public.

The scoping notice never provides any monitoring data, or references any current science, as to what the specific problems are in this landscape for wildlife. How did the agency determine that the current conditions are causing problems for wildlife? In general, one would not expect trees to be a problem for wildlife, especially juniper which is a highly valuable resource for wildlife, not just for forage, including berries, but as hiding and thermal cover. How has the agency determined that hiding cover are too high in this winter range? What are the objectives for hiding and thermal cover which are the target for

management intervention?The scoping notice lacks some important information,
such as what species of shrubs are going to be slashed and burned. Why aren't these shrubs being used by wildlife? The scoping notice states that these shrubs will be replaced with seedings of "desirable" plant species for wildlife. However, there is no formation as to what these plant species are, and why they will have more value to wildlife than the existing shrubs and juniper that are to be removed.
Overall, this scoping notice is a huge violation of the NEPA because the public is provided essentially no information as to why this project will benefit wildlife. At a minimum, the agency needs to demonstrate to the public that this is in fact the case. The scoping notice also did not provide any information as to how the resource specialists determined that the project will not lead to any significant effects on wildlife. These conclusions need to be documented for the public, including criteria that were used and evaluated to measure levels of significant impact. As just one question, if the Forest Plan standard to manage this area to promote big game species on their winter range is not being followed, this would most likely trigger significant impacts. It seems like that this is anintentional Forest Plan violation to promote livestock grazing over wildlife in this landscape. Juniper removal has been a long- standing practice to promote livestock grazing, not wildlife. The scoping notice did not discuss the current grazing use of this area by livestock. This information needs to be included as important

information to the public.
Finally, the scoping notice is a violation of the NEPA because the fact that these activities are being planned in the IRAs without and analysis of the impact of the project on wilderness characteristics is never specifically noted in the notice.
There is no information ever provided as to what the vegetation types are in the areas not proposed for treatment. What was the basis for determining areas for treatment. It seems likely that the nontreatment areas lack any shrubs and trees. If this is the case, the claims that diversity will be increased by expanding treeless areas in this winter range
Overall, the scoping notice is devoid of any useful information to the public as to why this project enhances wildlife habitat, or is needed to maintain naturalecosystem processes within an IRA. Iff juniper is so
flammable, it is not clear why it has to be slashed before it can be burned. It is clear that this project requires much more information to be provided to the public, and much more documentation to justify vegetation management within IRAs. And as previously noted, the criteria which the resource specialists used to estimate the level of impact needs to be provided, as well, to the public.
There is a considerable awareness today regarding the problems of noxious weed infestations on public lands. One activity that is clearly promoting noxious weeds are fuels reduction and prescribed burning projects. We cite only a few examples at this time. One example is a Joint Fire Science Report by Coop and Magee (Undated),

where they note that fuels and juniper reduction treatments resulted in rapid, large and persistent increases in the frequency, richness and cover of 20 non-native plant species including cheatgrass; exotic plant expansion appeared linked to the disturbance associated with treatment activities, reduction in tree canopy, and alterations to ground cover; exotic species were much more frequently encountered at treated than control sites, occurring at 86% of sample plots in treatments and 51%of untreated sample plots; richness of exotic species in treatments was more than double that of controls. What is also interesting in this study is that cheatgrass showed a negative effect of tree canopy, which means that cheatgrass was benefited by canopy removal. They noted that models for chestgrass alone and all non- native species together indicate strong negative associations with tree canopies, indicating that increased light availability, or perhaps below-ground resources such as moisture or nitrogen, enhance colonization and growth in treatments. Increases in exotic plant species in treatment areas was one of the reasons these researchers concluded that managers need to be cautious about implementing treatments in light of the persistent, negative ecological impacts that accompany woodland thinning in pinyon pine- juniper ecosystems; this includes an increase in fire frequency.

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burning fuel treatments in a manner that does not exacerbate existing weed and associated resource problems due to the reduction of ecological resistance that fuel reduction activities created, combined with the aggressive nature of exotic species present. Kerns also noted that weed problems were also caused in slash pile burning, which is planned for the Rowley Canyon project. Perchemlides et al. (2008) reported similar problems with juniper thinning projects in Oregon; exotic annual grass cover increased, whereas cover by native perennial grasses did not, in treatment areas; they noted that fuel reduction thinning may have some unintended negative impacts, including expansion of exotic grasses, reduction in native perennial species cover, persistent domination of annuals, and increased surface fuels.

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The agency notes that the project will not only reduce juniper, but various shrubs as well. Although we notedabove that juniper woodlands have a very high value to
many wildlife species, it is not clear that replacing juniper with grasses, including cheatgrass, balances out the loss of wildlife species removed due to juniper removal by replacement with other wildlife species that use only

grasses as habitat. For example, the scooping notice did not identify that mule deer on this winter range use grasses as winter forage. The value of cheatgrass to elk in the winter is also not demonstrated. Cheatgrass seeds are extremely sharp, and use by elk in the winter seems unlikely. Cheatgrass use by wildlife in the summer is also unlikely after early spring, since this grass cures out by summer. The seeds of cheatgrass are also responsible to mortality through blinding of grassland birds (McCrary and Bloom 1984).

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One issue that is generally ignored in the scoping document is what shrubs are present, and will be targeted

for masticating and burning. Do these control efforts include sagebrush? There is extensive documentation that sagebrush is highly valuable to both elk and deer on winter ranges (Wambolt 1998, Petersen 1993). Removing sagebrush to increase grasses on winter range, as is suggested in the scoping notice, does not promote mule deer and elk. Sagebrush has a high protein content of almost 13% in the winter, while dormant grasses have a protein content of less than 4% (Peterson 1993). There can be no valid reason to remove sagebrush and replace it with grasses for big game winter forage. The actualreplacement species the agency claims are going to be
managed for are never identified. But at a minimum, the rationale for removing shrubs and replacing them with grasses on winter range needs to be documented, as is required by the NEPA.

The claim that this project will increase diversity is pure unsupported rhetoric. There is no definition as to what constitutes diversity. What criteria are being used to measure diversity, and why isn't this information provided to the public? For example, what is the criteria for a diversity of age classes in juniper woodlands or sagebrush, and what is this based on? The NEPA requires that the agency provide reliable, valid information to the public on projects. This claim that removing juniper and shrubs will improve diversity is a clear violation of the NEPA, as there is no actual basis for it. Worse, it is not clear why eliminating trees and shrubs increases diversity as per the standard definitions. What science claims that a

grassland has higher habitat diversity than a woodland or forest, or shrubland? One likely factor driving the proposed project is not promotion of big game species and wildlife, but instead is being done for livestock. This maybe why there is no actual discussion in the scoping notice
of current livestock grazing practices in this landscape.
The claim that thinning and removing juniper will increase resiliency of this area is highly questionable. First, these forests are not highly flammable as per the current science. Second, thinning will likely increase flammability by increasing wind speeds and vegetation drying due to a reduction of shade. Third, flammability will surely be increased over current conditions due to an increase of grasses, including exotic species as cheatgrass. The scoping notice did not provide any actual science to indicate that thinning will reduce fires, and thereby increase “resiliency” of this winter range.
The scoping notice did not provide any monitoring data on the effect of the fire on as winter range, or how this fire affected the extent of exotic vegetation, such as cheatgrass and other weeds. Since the proposed actions will be somewhat similar in effect, it would seem to be important for the agency to provide this information to the public.
The scoping notice never provides any monitoring data, or references any current science, as to what the specificproblems are in this landscape for wildlife. How did the
agency determine that the current conditions are causing

problems for wildlife? In general, one would not expect trees to be a problem for wildlife, especially juniper which is a highly valuable resource for wildlife, not just for forage, including berries, but as hiding and thermal cover. How has the agency determined that hiding cover are too high in this winter range? What are the objectives for hiding and thermal cover which are the target for management intervention?

The scoping notice lacks some important information, such as what species of shrubs are going to be slashed and burned. Why aren't these shrubs being used by wildlife? The scoping notice states that these shrubs will be replaced with seedings of "desirable" plant species for wildlife. However, there is no formation as to what these plant species are, and why they will have more value to wildlife than the existing shrubs and juniper that are to be removed.

Overall, this scoping notice is a huge violation of the NEPA because the public is provided essentially no information as to why this project will benefit wildlife. At a minimum, the agency needs to demonstrate to the publicthat this is in fact the case. The scoping notice also did

not provide any information as to how the resource specialists determined that the project will not lead to any significant effects on wildlife. These conclusions need to be documented for the public, including criteria that were used and evaluated to measure levels of significant impact. As just one question, if the Forest Plan standard to manage this area to promote big game species on their

winter range is not being followed, this would most likely trigger significant impacts. It seems like that this is an intentional Forest Plan violation to promote livestock grazing over wildlife in this landscape. Juniper removal has been a long- standing practice to promote livestock grazing, not wildlife. The scoping notice did not discuss the current grazing use of this area by livestock. This information needs to be included as important information to the public.

The Forest Service Responded:

Ecology of pinyon-juniper ecosystems not a component of the vegetation specialist report or EA.Maintenance of diversity is a minimum management requirement. 36 CFR 219.27(a)(5).

The EA and draft decision notice did not explain why a lack of fire has degraded wildlife habitat. One has to assume that the presence of juniper woodlands is considered an adverse impact on wildlife, and if burned up, would improve wildlife habitat. We have cited a number of publications, just as examples, that in fact identify the high value of juniper woodlands to wildlife. This value includes forage for mule deer, a species that is to be emphasized on this identified winter range.

Juniper woodlands are also important habitat for many nongame birds (Coop and Magee undated; Reinkensmeyer 2000; Magee et al. 2019).. Coop and Magee (undated) noted that juniper removal treatments substantially reduced the occupancy of pinon-juniper specialists and conifer obligate species, including the pinyon jay. There, one such species, the pinyon jay, is a species of conservation concern

who is associated with juniper habitats (Boone et al. 2018); this paper warns of the detrimental impacts to this declining species due to juniper thinning projects. Please see the attached petition to list the pinyon jay for protection underthe Endangered Species Act. The U.S. Fish and Wildlife Service found:
Based on our review, we find that the petitions to list the bleached sandhill skipper (Polites sabuleti sinemaculata), blue tree monitor lizard (Varanus macraei), Bornean earless monitor lizard (Lanthanotus borneensis), and pinyon jay (Gymnorhinus cyanocephalus) present substantial scientific or commercial information indicating that the petitioned actions may be warranted.

Please find the FWS 90-DAY FINDING ON A PETITION TO LIST THE PINYON JAY (Gymnorhinus cyanocephalus) AS A THREATENED OR ENDANGERED SPECIES UNDER THE ENDANGERED SPECIES ACT attached.

The FWS wrote on page 8 of their finding: Yes. The petition presents credible evidence that reducing the extent and density of piñon-juniper woodlands, often with complete tree removal, is taking place across the majority of the range of the pinyon jay (Bombaci et al. 2017, 63; Defenders of Wildlife 2022, 66-78) (1) to improve wildlife habitat (e.g. Greater Sage-Grouse, mule deer) (Bender et al. 2013, 55-56; Bergman et al. 2014, 449; Bombaci and Pejchar 2016, 40; Kramer at al. 2015, 30 and 33; Boone et al. 2018, 191) and livestock forage (Aro 1971, entire),

(2) to reduce fuels and support fire mitigation plans (Schoennagel and Nelson 2011, 273-275), (3) to improve watershed function and reduce soil erosion (Jacobs 2015,1427), and (4) increase plant community heterogeneity (Miller et al. 2014, 479).

The project will destroy pinyon jay habitat throughout the HLCNF.

The project is in violation of NEPA, NFMA and the APA More recently, Magee et al. (2019) reported that juniper removal projects resulted in decreased occupancy of many associated bird species, including the pinyon jay. These research reports are consistent with a 2000 report by Reinkensmeyer that juniper woodlands provide important habitat for many bird species, with bird species diversity and density increasing as woodlands progress into juniper juniper. Given the documented high value of old growth juniper forests to wildlife, the EA or EIS at a minimum needed to discuss how old growth juniper is being managed in this landscape. The Intermountain Region recognizes old growth juniper (Hamilton 1993). How much old growth juniper is believed as essential for optimal nongame bird management, and where is this old growth juniper going to be maintained in this IRA and project?
The agency does not address the likely adverse impacts of climate change on the persistence of juniper woodlands or

The EA did not explain how climate change could affect the long-term persistence of juniper woodlands. If the

persistence of these woodlands will be adversely impacted by climate change, juniper thinning operations will promote the long-term demise of this important conifer. In addition to the concern about juniper mortality resulting from climate change, we also note that forest thinning in general exacerbates climate change. Milman (2018) recently reported on this issue, noting that scientists say halting deforestation is just as urgent as reducing emissions to address climate change, given the function they provide as a carbon sink. Forest thinning reduces this carbon sink function.

REMEDY

Choose the No Action Alternative or withdraw the DDN and FONSI and write an EIS that fully complies with the law.

Climate Change

We wrote in our comments:

Is this Project consistent with "research recommendations (Krankina and Harmon 2006) for protecting carbon gains against the potential impacts of future climate change? That study recommends "[i]ncreasing or maintaining the forest area by avoiding deforestation," and states that "protecting forest from logging or clearing offer immediate benefits via prevented emissions."

JJ. Disclose the impact of climate change on the efficacy of the proposed treatments;

KK. Disclose the impact of the proposed project on the carbon storage potential of the area;

- ***The EA does not include an analysis of climate change and how that will impact the project.***

The Forest Service responded:

Prescribed Fire Effects and Climate Change Concern Summary: Nine comments were received expressing specific climate change concerns related to potential prescribed fire effects on aridification; mercury release (particularly from abandoned mine sites); changes in the timing and availability of water in the soil, as well as runoff; and minimizing adverse impacts to soils and their ecosystem functions. A comment was also received from the EPA expressing concerns about anticipated climate changes, such as extended drought and increased frequency of severe storms, delaying vegetation recovery following project implementation and extending the potential timeframe of project-related erosion and sedimentation. The EPA provided a recent study looking at the impacts of warmer and drier climates on post-fire conifer recruitment for consideration. EPA also recommended the water resources effects analysis include discussion of climate change impacts

on revegetation and rehabilitation of treated areas, constructed firelines, and re-opened roads. EPA further recommended that the environmental assessment include an evaluation of whether climate adaptation and resiliency measures are needed to address potential impacts of drought and higher temperatures on post-project site recovery.

The environmental assessment discusses current forest conditions and the need for treatment to increase ecosystem resiliency and reduce the risk of high-severity wildfires occurrence due to changes in climate (pp. 1, 5, 13-14). Consideration of potential effects resulting from a changing climate is discussed in detail throughout the specialist reports and summarized in the draft environmental assessment were pertinent. The changing climate is considered throughout the Environmental Impacts section of the environmental assessment for the no-action (Current Management) and proposed action alternatives (pp. 27-70). More detailed analysis and discussion of climate change for the proposed project is presented in the Forest Carbon Cycling report. Impacts to soil and water resources in consideration of a changing climate were considered for both project alternatives (refer to the soils report and water resources report for details).

Conservation measures have been included in the project design to minimize soil disturbance and maintain soil health and function; protect water resources; and maintain water quality, availability, and

overall watershed ecosystem functions. These measures include project design features listed in the environmental assessment appendix B and Forest Plan standards and guidelines, Region 1 soil and water conservation practices, and Forest Service best management practices. These measures include requirements for timing and conduct of prescribed burning operations during optimal weather and soil moisture conditions to result in low-to-moderate soil burn severity in order to minimize impacts to soil and water resources. Refer to environmental assessment appendix B project design features WTR-1 through WTR-6, RMZ-1 through RMZ-7, and SOIL-1 through SOIL-8. Additionally, project design feature WTR-3 was specifically developed for treatments within EPA Superfund sites associated with historic mining areas to minimize ground disturbance, maintain ground cover and vegetative buffers near water features, and prevent off-site transport of any contaminated soils to water features.Forestwide Prescribed Fire Project Environmental Assessment Helena-Lewis and Clark National Forest

The effects analysis in the water resources report was updated to provide clarification of vegetative recovery as it pertains to establishment of effective ground cover (litter, organic matter, grass and forb recovery) following disturbance and to avoid confusion with re-establishment of conifer trees. The EPA

provided literature was reviewed and incorporated into the watershed effects analyses in the water resources report. The water resources report was also revised to clarify potential project effects, including more robust discussion of revegetation and rehabilitation of treated areas, constructed firelines, and reopened roads, in light of anticipated climate changes.

In addition to the concern about juniper mortality resulting from climate change, we also note that forest thinning in general exacerbates climate change. Milman (2018) recently reported on this issue, noting that scientists say halting deforestation is just as urgent as reducing emissions to address climate change, given the function they provide as a carbon sink. Forest thinning reduces this carbon sink function. There was no real analysis of how this unlimited burning and the cutting down of all trees less than 10 inches dbh through out the HLCNF with the exception of designated wilderness areas will effect global warming in violation of NEPA, NFMA, the ESA, and the APA.

The HLCNF Revised Forest Plan only has standards for snags 12 inches dbh and bigger. The Forest Plan is required by the 2012 planning rule to have standards for all snags.

If you are cutting and burning all trees 10 inches dbh and smaller for an indefinite amount of time, how will the forest regenerate? The project is in violation of NFMA for not ensuing that the forest can continue to grow trees.

REMEDY
Choose the No Action Alternative or withdraw the DDN and FONSI and write an EIS that fully complies with the law.

Migratory Bird Treaty Act and Birds

We wrote in our comments:

Is the project in compliance with the Migratory Bird Treaty Act?

The implementation of an EA does not free the Forest Service from the requirements of the National Environmental Policy Act (NEPA). The basis for a determination that this fuels project will improve habitat for wildlife was never provided. In addition, the term "wildlife" includes a large suite of wildlife species.

Page 9 of the EA states:

"Wildlife and plants: There are federally listed plant and animal species that could occur within the project area and Regional Forester Sensitive Species of plants, terrestrial animals, and aquatic species that could be affected by proposed activities. In addition, bird species protected by the Migratory Bird Treaty Act are present in the areas proposed for treatment. Each species has

unique habitat requirements, which often contrast as one species may require open or early successional habitat, while another species requires mature forest. The project area provides a diverse range of suitable habitats for many species."

Demonstrating that all wildlife species will be benefited by this project would seem to require some rather extensive documentation to the public, none of which was provided in the EA. We believe that the NEPA requires the agency to adequately demonstrate that the determination that this project will benefit all wildlife species needs to be included in the public involvement process, which in this case is the EA.

Juniper woodlands are also important habitat for many nongame birds (Coop and Magee undated; Reinkensmeyer 2000; Magee et al. 2019).. Coop and Magee (undated) noted that juniper removal treatments substantially reduced the occupancy of pinon-juniper specialists and conifer obligate species, including the pinyon jay. There One such species, the pinyon jay, is a species of conservation concern who is associated with juniper habitats (Boone et al. 2018); this paper warns of the detrimental impacts to this declining species due to juniper thinning projects. More recently, Magee et al. (2019) reported that juniper removal projects resulted in decreased occupancy of many associated bird species, including the pinyon jay. These research reports are consistent with a 2000 report by Reinkensmeyer that juniper woodlands provide important habitat for many

bird species, with bird species diversity and density increasing as woodlands progress into old growth juniper. Given the documented high value of old growth juniper forests to wildlife, the EA at a minimum needed to discuss how old growth juniper is being managed in this landscape. The Intermountain Region recognizes old growth juniper (Hamilton 1993). How much old growth juniper is believed as essential for optimal nongame bird management, and where is this old growth juniper going to be maintained in this IRA and project?

The project will likely violate the NEPA if the mitigation measures for MIS, sensitive species, and Montana Species of Concern (birds, mammals including bats) are not clearly defined, and demonstrated to be effective as per the current best science.

What time of year will the prescribed fires be lit? How will the prescribed fires effect nesting birds and cavity nesting species?

We noted in our comments with Native Ecosystems Council that there was no old growth information for the project area, even though old growth is a key, critical habitat for many species of western forest birds. We also noted that the HLCNF Revised Forest Plan (RFP) has an invalid conservation strategy for birds dependent upon snags. Another concern was the apparent contradiction of the HLCNF RFP as per the guideline for raptor surveys.

Only known nests are to be protected, but there are no actual requirements for surveys in order that such nests can actually be located. WE noted there was no analysis of project impacts on elk, including security and habitat effectiveness, even though the HLCNF was instrumental in developing elk management recommendations as per USDA/MFWP (2013). We raised a concern about the lack of "beneficial practices" being required for migratory birds, as per the Migratory Bird Treaty Act (MBTA). As such, the allowed "incidental take" of migratory birds was never addressed, so this take will not be legal. We noted as well that the Forest Wide Burning Project NEPA analyses never did evaluate impacts on any species of western forest bird, including Montana SOC or USFWS BCC, and that the HLCNF appears to have no actual conservation requirements for these species.

The Forest Service responded:

Terrestrial wildlife, including species of conservation concern and migratory birds
The implementation of decisions previously made for projects would be expected to continue from current impacts from transportation, vegetation management, and prescribed fire, generally resulting in improved habitat conditions for species of conservation concern and migratory birds in the short and long term (ten to 20 years or more), though some unintentional adverse impacts to breeding individuals might

occur in localized areas during treatment activities. Current use of roads would continue. Many sections of Forest Service roads receive low to moderate use by motorized vehicles. As such, potential adverse impacts to breeding individuals and habitat security would continue. Where active management does not occur, forested stands would continue to increase in density and would remain at risk to high levels of mortality from insects, disease, and wildfire. In the short term (up to ten to 20 years), this would likely reduce nesting and foraging habitat for species of conservation concern and many migratory birds, though some birds (such as brown creepers) may benefit from improved habitat conditions. Present and future fuel conditions may contribute to a higher risk of high-severity fire. When they occur, these more intense wildfires would reduce nesting and foraging habitat for many species.

The HLCNF is violating the NFMA by failing to ensure key habitats essential for landbirds associated with forest habitat will persist across all areas of the forest, including areas where timber production is emphasized; it is clear that severe adverse impacts will be triggered to western forest birds, impacts that require completion of an EIS.

The HLCNF RFP has no protections for landbirds associated with old growth forests; a Forest Plan amendment is required to address this failure before any

additional vegetation and/or fuels projects are implemented.

The HLCNF RFP does not require any level of actual old growth. Any old growth can be logged for timber production and fuels reduction, as long as the minimum number of trees identified in Green et al. (1991) remain. This number of trees can be provided in clearcuts with leave trees. So the desired condition for old growth in the RFP, to maintain or increase old growth, is not being met in violation of the RFP. All current old growth is available for timber production. The RFP FEIS does not define why timber production and fuels treatments in old growth stands are compatible for wildlife, including the following 23 bird species that likely occur on the HLCNF in violation of the 2012 Planning Rule, NEPA, NFMA and the APA.

The HLCNF Revised Forest Plan does not identify any focal species for this landbird assemblage for forested ecosystems, in violation of the 2012 Planning Rule and the NFMA (CFR 219.9). As is noted in the HLCNF RFP, the 2012 Planning Rule includes 8 monitoring items, of which #3 states: “The status of focal species to assess the ecological conditions required under 36 CFR 219.9.” The response provided to NEC on focal species includes the following:

Focal species to be monitored are determined by the area being studied. "The presence, habitat affiliation and population trend (status of) avian species associated with forested vegetation at a forest wide scale " (Forest Plan p.191). Since this term is utilized in the monitoring plan for the whole Custer-Gallatin National Forest, the closest comparison for the Cooke City Project would be the species identified in the Wildlife Report. In the case of land bird species and assemblages in the Cookie City Project area, the species and their preferred habitat are identified in Table 37 of the Cooke City Fuels and Forest Health: Wildlife Effects Analysis on page 33-34, along with an analysis of the project's possible effects on these species. This report can be found on the Cooke City Fuels and Forest Health Project webpage under the Project Documents tab in the Objection_Specialist Report folder.

In effect, agency personnel are stating that the HLCNF Revised Forest Plan (RFP) does not identify focal species for monitoring landbird assemblages in forested ecosystems because these will be identified for each project area landscape. This is never specifically noted in the RFP to explain why focal species for a landbird assemblage were never identified, as is required by the 2012 Planning Rule. As there is currently no biennial monitoring report completed for the 2022 RFP, it is not possible to see how

focal species were addressed in the required monitoring. The failure to provide this biennial monitoring report is also a violation of the NFMA.

The Forest Wide Burning Project Wildlife Report identifies 14 bird species as Montana Species of Concern (SOC) or USFWS Birds of Conservation Concern (BCC). There was no information provided to indicate these are considered "focal species," or that they are being monitored as per the RFP. However, these species are not identified as focal species in the RFP for landbirds associated with forested habitats. In effect, the CGNF is clearly violating the requirements to identify and monitor wildlife via focal species in order to maintain their diversity over the landscape. At this time, out of 67 species of western forest birds, 64% of them are in decline (Rosenberg et al. 2019). Management of western forest birds is essential to prevent further declines, and to actually reverse these declines by increasing their habitats.

Until the HLCNF amends the RFP to identify focal species for birds associated with forested ecosystems, and establishes how these focal species will be monitored in order to know how forest management activities are affecting their habitats and populations, the agency cannot legally proceed with any types of vegetation projects that will impact forest birds.

Old growth-dependent wildlife species are a rare terrestrial wildlife community in Montana composed of specific interior-forest mammals, raptors, woodpeckers, and songbirds. What these species have in common is a need for a certain level of closed forest canopy for cover and large trees for nesting or denning. This type of forest has a legacy of dead standing trees, dead fallen trees, large live standing trees, multiple canopy layers, and a closed forest canopy. This type of forest – whether it is called “old-growth” or “mature” or “overmature” or “multi-storied” – can take hundreds of years to grow. This type of forest is also highly desired by commercial logging interests due to the economic value of large trees.

Northern Rockies fisher and pine marten are two interior forest dwelling mammals that do best when patches of mature forests are large and non-linear. They generally avoid large openings such as clearcuts.

Several studies show that goshawks, an interior forest dwelling raptor, avoid clearcuts or areas with sparse tree cover created through timber harvest, while goshawk competitors (red-tailed hawks, great horned owls) may respond favorably to treatments that create early successional habitat.

Clearcutting and intermediate logging can also reduce potential red squirrel habitat, a primary prey species for goshawks, by removing large trees and down logs on the site.

Pileated woodpeckers are considered a large-patch-size species. Their home ranges are extensive and require a generous percentage of unlogged or partially logged forest with a reasonable distribution of large trees. Several studies indicate that pileated woodpeckers do not occupy recently logged landscapes.

Several other bird species respond negatively to harvest treatment that reduces stand density and opens up forested stands. Brown creepers are strongly associated with late successional stages of coniferous forests and in Montana they are more common in spruce-fir and mixed-coniferous forests. Studies in the Rocky Mountains indicate that creepers tend to be less abundant in logged (clearcut and partial logged) versus unlogged forests.

Townsend's warblers may also be affected by openings created through regeneration harvest. They rely on coniferous forests and tend to be less abundant in open forests or in forest patches that have been harvested.

Hammond's flycatcher and Canada jays are also sensitive to timber harvest.

Great gray owls may also be susceptible to logging.

Red crossbills are adapted for foraging on seeds in conifer cones. They benefit most from mature and old growth forests that generally produce seeds consistently over longer periods than logged forests.

Clearcutting openings can create habitat for cowbirds that utilize forest edges associated with the openings in turn reducing local populations of susceptible forest birds.

A landscape with a complex matrix of mature conifer forest, new clearcuts, sapling thickets, aspen clones, burns, and dry parks may limit habitat opportunity for certain mammals and birds such as red-backed voles, red squirrels, brown creepers, goshawks, meadow voles, and meadowlarks.

Clearcuts, in particular, can eliminate whole blocks of interior forest habitat replacing them with open environments that can be problematic for some forest-dependent forest species for several decades.

The new unforested clearings and the early-seral forest habitats that follow favor a different association of wildlife species—those adapted to "open" environments, edges, ecotones, or mosaics of early/late seral forest. These species may then compete with interior forest dwellers in along the edges and ecotones.

The Project violates the Forest Plan; the Project EA violates NEPA; and/or the Revised Forest Plan violates the NFMA planning regulations regarding old growth.

The 2012 Planning Rule mandates: "Ecosystem diversity. The plan must include plan components, including standards or guidelines, to maintain or restore the diversity of ecosystems and habitat types throughout the

plan area. In doing so, the plan must include plan components to maintain or restore: . . . (ii) Rare . . . terrestrial. . . animal communities . . . ." 36 C.F.R. §219.9 (a)(2). Compliance with this provision "is intended to . . . support the persistence of most native species in the plan area." 36 C.F.R. §219.9.

Please find Pfister attached. The project needs to be amended to include an analysis of habitat types based on Pfister since different habitat types burn at different intervals.

The project is trying to convert most of the HLCNF to ponderosa pine habitat which violates NFMA and won't work. It will just be a long term deforestation project since cutting and burning all trees 10 inches dbh and smaller will prevent any new trees from growing into big trees. Forests are vital to all life on Earth, they purify the air we breathe, filter the water we drink, prevent erosion, provide habitat, bring rain to the interior states, protect communities from the impacts of the climate crisis and globally reduce Earth's temperature by about 0.5 degrees C. It is incumbent upon the media to vigorously question whether employing chainsaws to remove trees does far more harm than good.

The primary "rare terrestrial animal community" on the Forest is the old growth dependent wildlife species community.

The enforceable numeric old growth forest standards found in the prior forest plans – to protect old growth dependent wildlife species – were removed from the Revised Forest Plan, and replaced with a desired condition and a guideline.

There is no longer any enforceable numeric standard for old growth forest retention on the Forest, and logging is permitted in old growth forest down to the "minimum criteria" listed in Green et al., which in cases such as this Project require the retention of only 4 or 5 large trees per acre.

The Project EA fails to take a hard look at whether old growth complies with desired percentages discussed above, and is widely distributed and contributes to connectivity across the Forest and in every Geographic Area.

The Revised Forest Plan violates the 2012 NFMA Planning Rule and/or NEPA.

The old growth provisions in the Revised Forest Plan, which fail to set enforceable numeric minimum percentages of old growth retention for the Forest, and at the same time allow significant commercial logging in old growth while still labeling it as "old growth" post-logging, lack ecological integrity, including lacking appropriate elements to ensure function and connectivity of old growth forest for the rare terrestrial wildlife

community of old growth dependent wildlife species, and therefore the Revised Forest Plan violates the NFMA planning regulations, NFMA, and the APA. Furthermore, there is no adequate cumulative effects analysis in the Revised Forest Plan EIS regarding the impact on old growth dependent wildlife species across the Forest from this new, piecemeal, project-by-project, death by a thousand cuts approach to old growth forest management.

Without a Forest-wide cumulative effects analysis of how old growth logging will impact old-growth dependent wildlife species, the Forest Service cannot demonstrate that its Forest Plan complies with NEPA or the NFMA planning rule mandate that the Forest Plan maintains or restore the "rare terrestrial animal community" of old growth dependent wildlife species.

Remedy: Choose the No Action alternative or pull the draft decision and write an EIS that follow all laws and requirements.

Grizzly Bears and Elk

We wrote in our comments:

Page 36 of the draft EA states:

Project activities, including helicopter use, would temporarily disturb individuals and disrupt grizzly bear movements during implementation, though project treatments will be scheduled to ensure undisturbed areas are available to wildlife to the extent practicable, and implementation will cease if grizzly bears are discovered within or adjacent to the treatment area. Project activities will also be restricted within important grizzly bear habitats during spring. Areas of untreated forest would remain interspersed with treated stands year-round, providing a variety of alternate local travel routes. Connectivity would be facilitated by the distribution of inventoried roadless areas in the project area.

Since the preferred alternative calls for "treating" or logging, burning, and bulldozing roadless areas, the above paragraph is untrue. The last sentence in the above paragraph implies that you are staying our of roadless areas when you are not. The preferred alternative proposes 2.3 million acres of the 2.6 million acre HLCNF so the project essentially calls for removing 88% of the understory or hiding cover in the entire HLCNF. Therefore above paragraph is incorrect and in violation of NEPA.

Please see the attached grizzly bear connectivity map.

Grizzly Bear Connectivity Maps: Data Sources and Descriptions

The Randomized Shortest Path (RSP) raster delineates potential dispersal paths for male-mediated gene flow between grizzly bear (Ursus arctos) populations in the Greater Yellowstone Ecosystem (GYE) and the Northern Continental Divide Ecosystem (NCDE).

Feature Layer by mattgisonline

*(https://services3.arcgis.com/mtA9zsG1MSKLQNza/arcgis/rest/services/GYE_to_NCDE_Grizzly_*

Bear_Corridors/FeatureServer)

Description

The Randomized Shortest Path (RSP) raster delineates potential dispersal paths for male-mediated gene flow between grizzly bear (Ursus arctos) populations in the Greater Yellowstone Ecosystem (GYE) and the Northern Continental Divide Ecosystem (NCDE). A RSP algorithm was used to estimate the average number of net passages for all grid cells at a spatial resolution of 300 m in the study region which spans parts of Montana, Idaho, and Wyoming. RSP rasters identify potential movement paths for 3 levels of random deviation determined by the parameter Θ (i.e., Θ = 0.01, 0.001, and 0.0001) for bears moving from an origin to a destination node. Lower values of Θ result in greater exploration and more random deviation around the shortest path (Θ = 0 equivalent to pure random walk), whereas larger values approach the equivalent of a least-cost path. Broad-scale concordance between model predictions was found for paths originating in the NCDE and those originating in

the GYE for all 3 levels of movement exploration. The resulting RSP rasters provide evidence that landscape features concentrate movement paths into corridors (e.g., because of anthropogenic influence), and delineate paths that typically follow neighboring mountain ranges. Movement paths that converge at junctions between several ranges may serve as pivotal stepping stones for grizzly bear movement and successful dispersal.

Please incorporate this into your analysis.

The Interagency Grizzly Bear Guidelines (IGBC 1986) document directs the FS to manage for "multiple land use benefits" to the extent that these uses are compatible with grizzly recovery.

The Helena-Lewis and Clark National Forest has occupiedgrizzly bear habitat thoughout. Management must focus on grizzly bear habitat maintenance, improvement and minimization of grizzly-human-conflict. Since grizzly are listed as threatened under the Endangered Species Act, management decisions shall favor the needs of the grizzly bear when grizzly habitat and other land use values compete. The DROD and FEIS for the 2020 Forest Plan do not disclose if adverse project or cumulative impacts are consistent with the requirement to prioritize the needs of the grizzly bear for the applicable Management Situations.

Additional direction in the Interagency Grizzly Bear Guidelines (IGBG) (1986) for MS1 habitat included the following for timber management:

Logging and/or fire management activities which will adversely affect grizzly bear populations and/or their habitat will not be permitted; adverse population effects are population reductions and/or grizzly positive conditions; adverse habitat effects are reduction in habitat quantity and/or quality.

Schwartz et al. (2010) noted that management for grizzly bears re-quires not only the provision of security area, but control of open road densities between security areas. Otherwise, grizzly bear mortality risks will be high as bears attempt to move across highly roaded landscapes to another security area. There needs to be direction regarding existing road densities located outside of and be- tween security areas.

Grizzly bears are winter-sleepers rather than true hibernators. If high density motorized routes are known to disturb, displace, habituate, and raise mortalities among grizzlies in spring, summer, and fall, there's no logical, or scientific reason to believe they don't do the same to sleeping bears in winter.

The Revised Plan's desired condition for patches which includes a range of larger opening sizes may result in adverse effects if lack of cover leads to under use of foraging habitat or increased risk of human-grizzly bear conflicts causing mortality of a grizzly bear. Openings

created by timber harvest, depending on site conditions, may retain features that interrupt the line of sight and provide cover for bears (J. Anderson 03/12/2012 pers. comm.).

The EA fails to show that the openings to be newly created by the project don't exceed levels of current incidental take.

The current management strategy allows "temporary" reductions in Core and "temporary" increases in road density as if the habitat would then get reprieve from such "temporary" adverse effects. However, the FS recognizes no genuine limitations on how much, how often and for how long these "temporary" current protections by allowing such harmful activities in Security Core as the opening of roads to public motorized uses like firewood gathering, unlimited amounts of non-motorized trails and human activity, and logging projects that reduce Security Core for half a decade.

Moreover, excusing logging roads from limits on Total Motorized Route Density even though they have not been decommissioned, have not been removed from the road system, and are instead being "stored" for future logging —which also makes them more vulnerable to continued use as trails. (Hammer, 2016.)

Within these comments, we incorporate AWR's February 12, 2018 Objection to the draft Record of Decision for

theAmendments to the Forest Plans of the Lolo, Kootenai, and

Helena-Lewis and Clark National Forests concerning habitat management direction for the Northern Continental Divide Ecosystem grizzly bear population in the North Big Belts grizzly bear analysis unit. This is necessary because the 2020 Forest Plan will be implementing the forest plan as amended by those Amendments (here- in after, "Grizzly Amendments" or "Grizzly Amendment") and sub- sequent to our Objection, the Forest Service (FS) did not provide adequate relief to rectify the deficiencies in law, policy and regulation our Objection identified.

Please note that AWR's Objection to the Grizzly Amendments itself incorporated other objections and comments, and so those are likewise incorporated herein. Those include the objections by Swan View Coalition (SVC), Friends of the Wild Swan (FOWS), and Brian Peck found at:

http://www.swanview.org/reports/ Brian_Peck_Forest_Plan_Objection.pdf,

http://www.swanview.org/reports/ FOWS_Forest_Plan_Objection.pdf,

That was also an Objection to the Flathead National Forest Land and Resource Management Plan and the Flathead National Forest Species of Conservation Concern determination and list, and to the degree the science, law, and policy we discuss Project.

http://www.swanview.org/reports/SVC_Forest_Plan_Objection.pdf and previous comments and other communications from AWR, SVC, FOWS, and Brian Peck concerning the Grizzly Amendments.

Four your convenience, the SVC DEIS comment letters (which

AWR's comments on the Grizzly Amendments DEIS

incorporated by permission) are located at:

http://www.swanview.org/articles/whats-

new/svcs_comments_on_draft_flathead_forest_plan/230

In sum, the Grizzly Amendments remain controversial and

contested. We believe the FS has not applied best available

science in adopting the Grizzly Amendments and therefore is not in compliance with NEPA, NFMA, and the ESA.

The DROD and FEIS fails to disclose how effective road

closures are for the purpose of eliminating human access behind the closures.

We incorporate and attach the Amended Complaint and order for case

CV-18-67-DWM for the purposes of explaining how roads affect wildlife and that ineffective closures on national forest land how are all too common.

The EA fails to consider loss of vegetative cover from the massive clearcutting that the HLCNF has been doing, which has affected security for grizzly bears and other wildlife depending upon seclusion from humans.

This 2020 Forest Plan abandons a longstanding Forest Service commitment to limit road development in key grizzly bear habitat in the HLC National Forest and to limit human uses of grizzly bear secure habitat. The Forest Service and FWS havesought to dismiss the impact of this new management direction by asserting that the Forest Service will maintain the habitat conditions, but the agencies ignored that the amendment does not constrain the construction of new road mileage as long as the Service takes minimal measures to block or obscure the entrances to the new roads even though the federal district court just ruled that Forest Service road closures are not effective.

Please see the order for case 9:18-cv-00067-DWM.

By law, the logging roads and illegal user-created roads on National Forests are supposed to be securely and effectively closed. Unfortunately, the Forest Service has interpreted this requirement to allow it to put a pile of dirt in front of the road and call it good. We showed the court that this strategy is failing.

Road use on closed roads and illegal user-created roads is a pervasive and chronic problem and it is keeping these endangered grizzly bears on the brink of extinction.

This represents a major departure from prior management requirements and threatens to significantly degrade grizzly bear habitat security. The revised Plan also abandons limits on human uses of roads and trails in secure bear habitat.

In conducting its review of the amendment to the Forest Plan under the ESA, FWS did not rationally grapple with the impacts of this new management direction, as the law requires, before concluding in a Biological Opinion that the revised amendment will not jeopardize grizzly bears in the Helena-Lewis and Clark National Forest. The revised Plan and Biological Opinion therefore violate section 7 of the ESA. 16

FWS and the Forest Service violated the ESA by arbitrarily dismissing the threat to grizzly bears and bull trout posed by roadbuilding and the proliferation of human use of roads and trails permitted under the final Record of Decision for the Forest Plan Amendments (Helena – Lewis and Clark, Kootenai, and Lolo National Forests) to Incorporate Habitat Management Direction for the North Big Belts grizzly bear analysis unit.

The Forest Service must reconsult with the USFWS on the impact of the 2020 Forest Plan and the Grizzly Amendments (Helena – Lewis and Clark, Kootenai, and Lolo National Forests) to Incorporate Habitat Management Direction for the Northern Continental Divide Ecosystem Grizzly Bear Population on grizzly bears and the North Big Belts grizzly bear analysis unit. The Forest Service must also give the public a chance to comment on this consultation. It is a violation of NEPA, NFMA, the APA, and the ESA to not do so.

The Interagency Grizzly Bear Guidelines (IGBC 1986)

document directs the FS to manage for "multiple land use

benefits" to the extent that these uses are compatible with grizzly recovery.

The Helena-Lewis and ClarkNational Forest has occupied grizzly bear habitat though out. Management must focus on grizzly bear habitat maintenance, improvement and minimization of grizzly-human-conflict. Since grizzly are listed as threatened under the Endangered Species Act, management decisions shall

favor the needs of the grizzly bear when grizzly habitat and other land use values compete. The Draft EA and the Forest Plan do not disclose if adverse project or cumulative impacts are consistent with the requirement to prioritize the needs of the grizzly bear for the applicable Management Situations.

Additional direction in the Interagency Grizzly Bear Guidelines (IGBG) (1986) for MS1 habitat included the following for timber management:

Logging and/or fire management activities which will adversely affect grizzly bear populations and/or their habitat will not be permitted; adverse population effects are population reductions and/or grizzly positive conditions; adverse habitat effects are reduction in habitat quantity and/or quality.

Schwartz et al. (2010) noted that management for grizzly bears re-quires not only the provision of security area, but control of open road densities between security areas. Otherwise, grizzly bear mortality risks will be high as bears attempt to move across highly roaded landscapes to another security area. There needs to be direction regarding existing road densities located outside of and between security areas.

Grizzly bears are winter-sleepers rather than true hibernators. If high density motorized routes are known to disturb, displace, habituate, and raise mortalities among grizzlies in spring, summer, and fall, there's no

logical, or scientific reason to believe they don't do the same to sleeping bears in winter.

The Forest Plan's desired condition for patches which includes a range of larger opening sizes may result in adverse effects if lack of cover leads to under use of foraging habitat or increased risk of human-grizzly bear conflicts causing mortality of a grizzly bear. The EA fails to show that the openings to be newly created by the project don't exceed levels of current incidental take.

The current management strategy allows "temporary" reductions in Core and "temporary" increases in road density as if the habitat would then get reprieve from such "temporary" adverse effects. However, the FS recognizes no genuine limitations on how much, how often and for how long these "temporary" current protections by allowing such harmful activities in Security Core as the opening of roads to public motorized uses like firewood gathering, unlimited amounts of non-motorized trails and human activity, and logging projects that reduce Security Core for half a decade.

The EA fails to consider loss of vegetative cover from the massive burning, thinning and clearcutting proposed, which will affect security for grizzly bears and other wildlife depending upon seclusion from humans.

Page 17 of the wildlife BE states:

Connectivity is a key factor in ensuring distribution of grizzly bears throughout the Northern Continental Divide Ecosystem, as well as maintaining genetic health of the Northern Continental Divide Ecosystem and other grizzly bear populations (for example, the Greater Yellowstone Ecosystem). Human activities such as roads and developments are the primary causes of grizzly bear habitat fragmentation {Servheen, 2001, Identification and management of linkage zones for grizzly bears between the large blocks of public land in the northern Rocky Mountains}, which can limit grizzly bear movement within and among habitats and have the potential to limit the degree to which grizzly bear populations in Montana and the United States are both genetically and demographically connected.

Connectivity is facilitated in the project area through a series of inventoried roadless areas distributed throughout the geographic areas. The intervening matrix may pose impediments in heavily roaded areas. Table 9. shows motorized route information within the 21 GBAUs. Table 10, which follows, shows motorized route information within the 15 bear management subunits.

The problem with the above state is the project calls for removing trees, clearcutting, building fire lines and fuel breaks using mechanical means in roadless aress in violation of NEPA, NFMA, the Roadless Rule, the ESA and the APA.

Page 14-15 of the Wildlife BE states:

Grizzly Bear Habitat in the Project Area

Secure Habitat

Grizzly bear habitat that is considered 'secure' is generally considered to be physically removed from areas of recurring human use. Secure habitat has commonly been defined as areas of a specified minimum size that are beyond a specified distance from motorized routes {Boulanger, 2014, The impact of roads on the demography of grizzly bears in Alberta;Mace, 1996, Relationships among grizzly bears`, roads and habitat in the Swan Mountains`, Montana;McLellan, 2015, Some mechanisms underlying variation in vital rates of grizzly bears on a multiple use landscape;Proctor, 2018, Conservation of threatened Canada- USA trans-border grizzly bears linked to comprehensive conflict reduction;Proctor, 2019, Effects of roads and motorized human access on grizzly bear populations in British Columbia and Alberta`, Canada}. As noted in the "Grizzly Bear Methods" section, here secure habitat is defined as areas at least 2,500 acres in size and at least 0.3 miles (500 meters) from motorized routes. The existing secure habitat within the 21 grizzly bear analysis units is shown in Table 5. .

Table 5 on page 15 of the Wildlife BE shows that most of the geographic areas of the HLCNF have little secure habitat. Some of the geographic areas have less than 10% secure grizzly habitat and as little as 3% secure

habitat. Since the EA does not tell the public where they plan to cut down trees, set fires, build fire lines and fuel breaks with bulldozers, the project is in violation of NEPA, NFMA, the ESA and the APA.

By law, the logging roads and illegal user-created roads on National Forests are supposed to be securely and effectively closed. Unfortunately, the Forest Service has interpreted this requirement to allow it to put a pile of dirt in front of the road and call it good. Road use on closed roads and illegal user-created roads is a pervasive and chronic problem and it is keeping these endangered grizzly bears on the brink of extinction.

This represents a major departure from prior management requirements and threatens to significantly degrade grizzly

The Forest Service is violating the ESA by arbitrarily dismissing the threat to grizzly bears posed by roadbuilding.

How many road closure violations have occurred in the Helena-Lewis and Clark N.F. in the last 5 years?

The Forest Service must consult with the USFWS on the impact of the project on grizzly bears and show exactly where all of the burning, fire lines, fuel breaks, and clearcuts will be and give the public a chance to comment

on it. It is a violation of NEPA, NFMA, the APA, and the ESA to not do so.

This is strong reason that the Forest Service should write an EIS for this project.

Management Direction for the Northern Continental Divide

Ecosystem Grizzly Bear Population and the North Big Belts grizzly bear analysis unit which is part of the Northern Continental Divide Ecosystem Grizzly Bear Population.

This is strong reason that the Forest Service should write an EIS for this project.

There is no information ever provided as to what the vegetation types are in the areas not proposed for treatment.

Overall, the EA is devoid of any useful information to the public as to why this project enhances wildlife habitat, or is needed to maintain natural ecosystem processes within

an IRA. It is clear that this project requires much more information to be provided to the public, and much more documentation to justify vegetation management within IRAs. And as previously noted, the criteria which the resource specialists used to estimate the level of impact needs to be provided, as well, to the public. It seems readily apparent that this project requires at a minimum an environmental impact ststement in order to comply with the NEPA, including the provision of valid, reliable information to the public when the Forest Service is planning resource management activities.

The best available science, Christensen et al (1993),recommends elk habitat effectiveness of 70% in summer range and at least 50% in all other areas where elk are one of the primary resource considerations. According to Figure 1 in Christensen et al (1993), this equates to a maximum road density of approximately 0.7 mi/sq mi. in summer range and approximately 1.7 mi/sq mi. in all other areas.

Do any of the 6th Code watersheds in the Project area meet either of these road density thresholds? It appears the Project area as a whole also far exceeds these thresholds. Please disclose this type of Project level or watershed analysis on road density.

Christensen et al (1993) state that if an area is not meeting the 50% effectiveness threshold of 1.7 mi/sq mi, the agency should admit that the area is not being managed for elk: "Areas where habitat effectiveness is

retained at lower than 50 percent must be recognized as making only minor contributions to elk management goals. If habitat effectiveness is not important, don't fake it. Just admit up front that elk are not a consideration." The Project EIS does not make this admission.

The Forest Service should provide an analysis of how much of the Project area, Project area watersheds, affected landscape areas, or affected Hunting Districts provide "elk security area[s]" as defined by the best available science,

Christensen et al (1993) and Hillis et al (1991), to be comprised of contiguous 250 acre blocks of forested habitat 0.5 miles or more from open roads with these blocks encompassing 30% or more of the area.

Please provide a rational justification for the deviation from the Hillis security definition and numeric threshold that represent the best available science on elk security areas.

What best available science supports the action alternatives?

The Forest Service responded:

Wildlife
There are more than 300 terrestrial wildlife species known or expected to occur on the Helena-Lewis and Clark National Forest (USDA Forest Service 2021a), most of which may occur in the project area. Habitat

for native wildlife species in the project area consists of riparian habitats, grass and shrub habitats, dry and mixed conifer habitats, hardwood tree habitats, high elevation habitats, late successional forest including large trees and old growth, and snags and coarse woody debris.

Elk are an important component of native wildlife diversity and are socially and economically important in Montana for a variety of reasons. However, viability of elk and the persistence of elk populations are not currently a concern in Montana or on the Helena-Lewis and Clark National Forest (USDA Forest Service 2020b).

There are three federally threatened wildlife species (grizzly bear, Ursus arctos horribilis; Canada lynx, Lynx canadensis; and North American wolverine, Gulo gulo luscus), two federally proposed wildlife species (monarch butterfly, Danaus plexippus; Suckley's cuckoo bumble bee, Bombus suckleyi), and two species of conservation concern wildlife (flammulated owl, Psiloscops flammeolus; Lewis's woodpecker, Melanerpes lewis) known to occur in the project area. Designated critical habitat for Canada lynx also occurs in the project.

The Wildlife Affected Environment (Environmental Baseline) is described in detail in each of the corresponding wildlife reports: Wildlife Diversity, Birds of Conservation Concern, Elk, Wildlife Species At Risk, and Wildlife Species Biological Assessment. Consultation with the U.S. Fish and Wildlife

Service per the ESA is ongoing.

Grizzly Bear
Based on recent observations of grizzly bears in the Big Belt Mountains and on private land between the Little Belt and Highwoods mountain ranges, the U.S. Fish and Wildlife Service has indicated that grizzly bears 'may be present' throughout most of the project area, except for the Snowies, Crazies, and Castles geographic areas and the portion of the Big Belts geographic area that lies south of U.S. Highway 12. Between 2009 and 2018 there were several verified observations of grizzly bears between the Northern Continental Divide Ecosystem and the Greater Yellowstone Ecosystem populations including in or near the Elkhorn, Big Belt, and Little Belt mountain ranges on the Helena-Lewis and Clark National Forest (USDA Forest Service 2020a).Forestwide Prescribed Fire Project Environmental Assessment
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The Rocky Mountain Range geographic area and the north half of the Upper Blackfoot geographic area are within the Northern Continental Divide Ecosystem recovery zone/primary conservation area, where grizzly bears have been known to occur before they were listed under the Endangered Species Act. The grizzly bear population in the Northern Continental Divide Ecosystem has more than tripled in size and

their occupied range has expanded since the species was listed in 1975. The grizzly bear population in this region is currently estimated to be above 1,100 individuals and increasing (USDI Fish and Wildlife Service 2022, Costello and Roberts 2022). Habitat protection measures for grizzly bears since the species listing have focused primarily on providing secure habitat and reducing direct and indirect sources of mortality (usually associated with livestock or other attractants on non-Federal lands).

Grizzly bear habitat that is considered 'secure' is generally considered to be physically removed from areas of recurring human use. The amount of secure habitat needed in an area depends on management objectives, habitat type, food availability, and other factors. Connectivity is another key factor in ensuring distribution of grizzly bears throughout the Northern Continental Divide Ecosystem, including maintaining genetic health of the Northern Continental Divide Ecosystem and other grizzly bear populations (for example, the Greater Yellowstone Ecosystem). Human activities such as roads and developments are the primary causes of grizzly bear habitat fragmentation (Servheen 2001).

There are approximately 1.7 million acres of potentially secure habitat for grizzly bears within 21 grizzly bear analysis units and 15 bear management subunits on the Helena-Lewis and Clark National Forest.

Within zone 1, about 39 percent of each grizzly bear analysis unit is potentially secure habitat. Within

zone 2, between 18 and 59 percent of each grizzly bear analysis unit is potentially secure habitat. Within zone 3, between 5 and 63 percent of each grizzly bear analysis unit is potentially secure habitat. Tables 5, 6, 9, and 10 in the Wildlife Species At Risk Report list the amount of secure and secure core habitat and the miles of motorized routes within grizzly bear analysis units and bear management subunits in the project.
Elk

Please find attached a copy of "Guide to the Effects Analysis of Helicopters in Grizzly Habitat." It concluded: ***Individual bears may demonstrate different tolerances to helicopter disturbance. Overall, grizzly bears may be more sensitive to helicopter disturbance than to fixed-wing aircraft. Bear responses may range from: (1) slight loss of habitat due to avoidance or displacement; (2) disturbance of bears during denning, causing abandonment of dens; and (3) physiological or behavioral stress (Harding and Nagy 1980; Reynolds, et al. 1986).***

The DDN and FONSI have no analysis, guidelines or standards limiting the take on grizzly bears by the use of helicopters during this project in violation of the ESA, NEPA, NFMA and the APA.

The DDN and FONSI have no analysis, guidelines or standards on the effect of using mechanical equipment to create fires lines which will be defacto trails and roads on elk and grizzly bears in violation of the Eastside Assessment, ESA, NEPA, NFMA and the APA.

The Forest Service is no meeting its security standards for elk now according the the Wildlife Report. There will be even less elk security after this project is implemented.

REMEDY

Withdraw the DDN and FONSI and write an EIS that fully complies with the law or choose the No Action Alternative.

Lynx and Wolverine

We wrote in our comments:

Page 14 of the Terrestrial Wildlife Biological Evaluation (BE) also assumes roadless areas will be left alone. It states:

Blocks of roadless habitat remain important, however, as areas where bears can avoid human activity.

Page 14 of the Wildlife BE also states: Connectivity is facilitated in the project area through a series of inventoried roadless areas distributed throughout the geographic areas.

Page 57 of the Wildlife BE also states: Implementation of the project could affect linkage habitat for both lynx and snowshoe hare at local scales. However, for lynx, linkage habitat at the scale of the project would remain intact due to the abundance and distribution of inventoried roadless areas across the mountain ranges. The project would not compromise the ability of lynx to remain connected.

Contrast this with page 12 of the Roadless Report which states: Impacts on the landscape are likely to cover a broader landscape and include more extensive areas of fireline construction as applicable as part of the burn plan and retardant application. In addition, trail and area closures are likely to be maintained over a longer period, impacting the public's ability to enjoy these roadless landscapes and impacting local economies.

Extensive fire lines over a long period of time is an extensive impact that as not been analyzed.

There is also a huge problem with the current Forest Plan direction for the Northern Rockies Lynx Management Direction. This amendment will be applied to the South Plateau project. The deficiencies of this Amendment need to be addressed prior to project analysis, since the NRLMD does not address, or provide, criteria for habitat

fragmentation and minimum levels of lynx winter habitat. It is clear from the EA that the projects will create movement barriers for the lynx, and that the NRLMD does not prohibit this severe impact. Also, the NRLMD does not prevent prescribed burning and forest thinning in recruitment winter habitat for lynx, even if existing levels of this key habitat are insufficient as per historical levels.

As per the NRLMD, it is not clear in the why extensive precommercial thinning is planned, and how this is allowed under the NRLMD. It is also not clear exactly

what types of areas are being thinned, such as if they are natural forest or old harvest units. Since the agency did not actually address this important issue in the EA, the general public may not be aware of the conflicts of the proposed actions with existing Forest Plan direction. This lack of transparency is an important NEPA issue with us.

We are specifically requesting that the agency provide the biological assessment and the biological opinion, including terms and conditions and allowed incidental take of grizzly bears and lynx, PRIOR to the objection process, so that the public can see how the Forest Service is going to manage these species with project implementation.

The project is far too large to provide meaningful information or analysis to the public, and thus prevents agency transparency in management of public lands. It is not clear why the Forest Service believes that such a large project is either needed, or can be meaningfully understood and reviewed by the public.

It is clear from the massive impacts proposed in grizzly bear and Canada lynx habitat that an environmental impact statement is needed for each individual project area.

The project is not following the best available science and therefore is in violation of NEPA, NFMA, the APA and the ESA. The best available science is now Kosterman's masters Thesis, Correlates of Canada Lynx Reproductive Success in Northwestern Montana

Please find Kosterman attached. Kosternman finds that 50% of lynx habitat must be mature undisturbed forest for it to be optimal lynx habitat where lynx can have reproductive success and no more than 15% of lynx habitat should be young clearcuts, i.e. trees under 4 inched dbh. This contradicts the agency's assumption in the Lynx Amendment that 30% of lynx habitat can be clearcut, and that no specific amount of mature forest needs to be conserved. It is now the best available science out there that describes lynx habitat in the Northern Rockies related to lynx viability and recovery. Kosterman's study demonstrates that the Lynx Amendment standards are not adequate for lynx viability and recovery, as previously assumed by the Forest Service.

Please see the attached paper titled: "Management of forests and forest carnivores: Relating landscape mosaics to

habitat quality of Canada lynx at their range periphery" by Holbrook et al. 2019. It states that all lynx habitat has to be monitored for lynx.

The vast majority of the project area is in lynx critical habitat.

The project will "Likely to adversely affect lynx which means that listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure.

The project does not have a take permit from the U.S. F.W.S. and is in violation of the E.S.A., NFMA, the APA and NEPA. The ESA (Section 3) defines take as "to harass, harm, pursue, hunt, shoot,wound, trap, capture,

USFWS further defines "harm" as "significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering", and "harass" as "actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not

Since this is now the best available science we are hereby formally requesting that the Forest Service write a supplemental EIS for the Northern Rockies Lynx Management Direction and reinitiate consultation with the FWS for the Lynx Amendment to publicly disclose and address the findings of this study, and to allow for further public comment on this important issue of lynx recovery.

How will the decreased elk security and thermal cover affect wolverines? Please formally consult with the US FWS on the impact of this project on wolverines. You are in violation of the ESA.

Please disclose whether you have conducted surveys in the Project area for this Project for whitebark pine, wolverines, pine martins, northern goshawk and lynx, grizzly bears as required by the Forest Plan.

Please disclose the last time the Project area was surveyed for whitebark pine, monarch butterflied, wolverines, bull trout, pine martins, northern goshawk, grizzly bears and lynx.

Please disclose how often the Project area has been surveyed for whitebark pine, bull trout, wolverines, pine martins, monarch butterflied, northern goshawks, grizzly bears and lynx.

Would the habitat be better for whitebark pine, wolverines, pine martins, bull trout, northern goshawks, grizzly bears, monarch butterflies, and lynx if roads were removed in the Project area?

Please provide us with the full BA for the bull trout, bull trout critical habitat, whitebark pine, wolverines, monarch butterflies, pine martins, northern goshawks, grizzly bears, lynx critical habitat, and lynx.

Please formally consult with the U.S. FWS on the impact of the project on bull trout, bull trout critical habitat, whitebark pine, wolverines, monarch butterflies, grizzly bears, lynx critical habitat, and lynx

The Forest Service responded:

Canada Lynx

On the Helena-Lewis and Clark National Forest, Canada lynx are resident throughout the Rocky Mountain Range and Upper Blackfoot geographic areas and in the northern portion of the Divide Geographic Area. Based on the most current information provided by the U.S. Fish and Wildlife Service, lynx may be present anywhere on the Helena-Lewis and Clark National Forest and in the project area (USDA Forest Service 2020a).

The portion of Canada lynx range in the Northern Rocky Mountain Range geographic area is within the northwestern Montana/northeastern Idaho core area (Interagency Lynx Biology Team 2013). A 'core area' is an area "with the strongest long-term evidence of the persistence of lynx populations supported by a sufficient quality and quantity of habitat" (USDI Fish and Wildlife Service 2005). Canada lynx are considered transient in 'secondary' and 'peripheral' areas, which include the remaining geographic areas in the project (USDA Forest Service 2020a).

No reliable information is available regarding the number of Canada lynx or the trend of the lynx population on the Helena-Lewis and Clark National Forest. Efforts by the Forest Service to maintain lynx populations have focused on maintaining habitat (USDA Forest Service 2020a).

There are approximately 1.4 million acres of lynx habitat within 75 lynx analysis units (LAUs) that overlap the project on the Helena-Lewis and Clark National Forest. The amount of lynx habitat within

each LAU is between 26 and 92 percent. Twelve LAUs (16 percent of LAUs in the project) currently have
more than 30 percent of their lynx habitat in early stand initiation structural stage that is not yet providing winter snowshoe hare habitat. See tables 13 and 14 in the Wildlife Species At Risk Report.

Canada Lynx Critical Habitat

The U.S. Fish and Wildlife Service Final Rule (50 CFR Part 17) designating critical habitat for Canada lynx in the contiguous United States has been in effect since March 2009. In 2014, the U.S. Fish and Wildlife Service published a revised designation of critical habitat (USDI Fish and Wildlife Service 2014), which was subsequently proposed for revision in November 2024 (USDI Fish and Wildlife Service 2024). In the project area, designated critical habitat occurs in the Rocky Mountain Range, Upper Blackfoot, and Divide geographic areas.

Lynx critical habitat contains the physical and biological elements essential to the conservation of Canada lynx, known as the primary constituent element (PCE) and its components. The primary constituent element for lynx critical habitat is "boreal forest landscapes supporting a mosaic of differing successional forest stages". These landscapes support snowshoe hares and their preferred habitats (PCE 1a), winter

snows that are generally deep and fluffy for extended periods of time (PCE 1b), sites for lynx denning that have abundant coarse woody debris (PCE 1c), and a matrix of habitats that do not support snowshoe hares but that Canada lynx are likely to travel through within a home range (PCE 1d) (USDI Fish and Wildlife Service 2014, USDA Forest Service 2020a). The project occurs in 37 lynx analysis units that contain lynx critical habitat on the Helena-Lewis and Clark National Forest. The acres of lynx critical habitat within each lynx analysis unit are listed in table 20 in the Wildlife Species At Risk Report.

Wolverine

Wolverines have been documented in all geographic areas on the Helena-Lewis and Clark National Forest except the Highwoods and Snowies, although the Elkhorns, Crazies, and Castles each have only one historical (more than 25 years) record. Wolverines were recently estimated to be at population capacity within the Northern Continental Divide Ecosystem portion of the northern U.S. Rocky Mountains wolverine population center. This area primarily occurs outside of the project within the Bob Marshall Wilderness Area, where most of the wolverine habitat on the Helena-Lewis and Clark National Forest occurs. Wolverine habitat occurs elsewhere on the Helena-Lewis and Clark National Forest, including within the project area. However, not all the areas with wolverine records or habitat are thought to have

potential to support reproduction (U.S. Department of Agriculture 2020a). Within the project area, most of the habitat suitable for use by reproductive females (maternal habitat) occurs within the Rocky Mountain Range, Upper Blackfoot, and Little Belts geographic areas.
Wolverine maternal and primary habitats are primarily situated at higher elevations and have relatively low road densities compared to dispersal habitat, which occupies lower elevation areas with high levels of human access. Primary and maternal habitats support a wide range of potential wolverine prey, including small and medium-sized mammals, deer, elk, moose, bighorn sheep, and mountain goat. Dispersal habitat generally lies between primary and maternal habitat; it is used to move between patches of suitable high elevation habitat or for other exploratory movements. Dispersal habitats generally are not suitable for the establishment of wolverine home ranges and reproduction (USDI Fish and Wildlife Service 2013). The amounts of maternal, primary, and dispersal (female and male) wolverine habitat in the project are listed in table 24 in the Wildlife Species At Risk Report.

The Forest Service did not respond to the following question:

Have you removed any lynx analysis units in the project area without taking public comment? If so, please withdraw the EA and first take public comment on why

you want to remove lynx analysis units. You removed lynx analysis units (LAUs) without taking comment in the Middleman project.

The agency is violating the NEPA by failing to include public involvement in the remapping of lynx habitat completed in 2013.

The document "Updating lynx habitat mapping using best science, corporate standardized data and state-of-the-art GIS technology", October 2013, for the Gallatin and Custer National Forests is provided in Attachment #2 of this Objection. Page 10 of this document indicates that lynx habitat remapping for the Beartooth Plateau LAU resulted in the reduction of mapped lynx habitat from 17,646 acres on Forest Service lands down to 8,754 acres on Forest Service lands, which was a reduction of 50%. There was no public involvement included in this in-house remapping, in violation of the NEPA. The agency is required to undergo NEPA for this remapping before it is implemented as management direction.

It is not actually clear what the end results of remapping lynx habitat on the Custer Gallatin National Forest is. For example, the Cooke City project states that the Beartooth Plateau LAU has 13,033 acres of mapped lynx habitat. This differs from either the 2005 17,646 acres of mapped lynx habitat, or the 2013 8,754 acres of mapped lynx habitat for

this LAU. If the 13,033 acres of mapped lynx habitat is the actual current acreage defined for this LAU, this would be a reduction of 4,613 acres of mapped lynx habitat from 2005, or 26%. The Cooke City project does not address remapping activities since 2005. The description of the acres of lynx habitat removed as per the final remapping project needs to be provided to the public as a part of this objection process, so the public can understand and evaluate whether this process was consistent with the current best science.

The Forest Service falsely claimed that the HLCNF Forest wide burning project will not adversely impact the threatened lynx or it's critical habitat. The cumulative adverse impacts of the HLCNF burning Project on lynx, including multiple violations of the Forest Plan direction for lynx and linkage areas, will clearly trigger adverse impacts on lynx in violation of the ESA, NFMA, NEPA, and the APA.

a. Degrading critical lynx habitat by reducing lodgepole pine does not promote conservation of the lynx, as is required by the ESA.

As per Holbrook et al. (2017a), lodgepole pine seedlings and saplings provide the most nutritious forage for

snowshoe hares of all conifers. This is why their study noted a significant correlation between the presence of snowshoe hares and lodgepole pine (e.g., abstract, “the abundance of lodgepole pine (Pinus contorta) was associated with snowshoe hare use within a mixed conifer context,”. This study noted that a mixture of lodgepole pine, spruce and subalpine fir provided optimal habitat for snowshoe hares, as both high quality forage (lodgepole pine) and good hiding cover (spruce and fir) were mixed together. This is exactly the type of key snowshoe hare habitat that is being targeted with this project. Thus, the agency’s deliberate efforts to eliminate all three of these key species for snowshoe hares (lodgepole pine, spruce and fir), within vast acres of this project area is a clear violation of the conservation requirements for lynx as per the ESA.

Please find Holbrook 2017, 2018, and 2019 attached.

Threatened species, the grizzly bear, the lynx, wolverine, and whitebark pine, will experience adverse effects of the proposed vegetation treatments in IRAs in violation of the ESA, NEPA, NFMA and the APA. In addition, the threatened wolverine will also experience adverse effects of these IRA treatments. This species is known to be heat sensitive (Copeland et al. 2010; Parks 2009). As discussed previously, forest thinning will result in local temperature increases over existing conditions. There is also the likelihood that the spring snowpack will be eliminated sooner in these treatment areas, even though snowpack is an important habitat variable for wolverine.

REMEDY

Choose the No Action Alternative or write an EIS that fully complies with the law. Also please formally consult the the U.S. FWS on the effect of this project on listed and proposed species and lynx and bull trout critical habitat.

Whitebark pine and bull trout

We wrote in our comments:

H***ave you surveyed the entire forest for whitebark pine? This must be done before a draft decision is signed so the public has a chance to comment. Whitebark pine seedlings, saplings and mature trees, present in subalpine forests proposed for burning, would experience mortality from project activity. Whitebark pine is fire intolerant (thin bark). Fire favors whitebark pine regeneration (through canopy opening and reducing competing vegetation) only in the presence of adequate seed source and dispersal mechanisms (Clarks Nutcracker or humans planting whitebark pine seedlings).***

White pine blister rust, an introduced disease, has caused rapid mortality of whitebark pine over the last 30 to 60 years. Keane and Arno (1993) reported that 42 percent of whitebark pine in western Montana had died in the previous 20 years with 89 percent of remaining trees being infected with blister rust. The ability of whitebark pine to reproduce naturally is strongly affected by blister rust infection; the rust kills branches in the upper cone bearing crown, effectively ending seed production.

Whitebark pine seedlings and saplings are very likely present in the subalpine forests proposed for burning and logging. In the absence of fire, this naturally occurring whitebark pine regeneration would continue to function as an important part of the subalpine ecosystem. Since 2005, rust resistant seed sources have been identified in the Northern Rockies (Mahalovich et al 2006). Due to the severity of blister rust infection within the region, natural whitebark pine regeneration in the project area is prospective rust resistant stock.

Although prescribed burning can be useful to reduce areas of high-density subalpine fir and spruce and can create favorable ecological conditions for whitebark pine regeneration and growth, in the absence of sufficient seed source for natural regeneration maintaining the viability and function of whitebark pine would not be achieved through burning. Planting of rust- resistant seedlings would likely not be sufficient to replace whitebark pine

lost to fire activities.

What surveys have been conducted to determine presence and abundance of whitebark pine re-generation? If whitebark pine seedlings and saplings are present, what measures will be taken to protect them? Please include an alternative that excludes burning in the presence of whitebark pine regeneration (consider 'Daylighting' seedlings and saplings as an alternative restoration method). Will restoration efforts include planting whitebark pine? Will planted seedling be of rust- resistant stock? Is rust resistant stock available? Would enough seedlings be planted to replace whitebark pine lost to fire activities? Have white pine blister rust surveys been accomplished? What is the severity of white pine blister rust in proposed action areas?

Since Whitebark pine are now listed as threatened the ESA, you must formally consult with the FWS on the impact of the project on whitebark pine and consult with the FWS on the revised Forest Plan's effect onwhitebark pine. To do this the Forest Service will need to have a complete and recent survey of the entire project area for whitebark pine and consider planting whitebark pine as the best available sci-ence by Keene et al. states is the only way to get new whitebark pine to grow. The Forest Service is incorrect when it states that the project will have "No significant effects would result from this project or cumulatively with other activities on National Forest or adjacent lands that would affect at-risk plant species'

ability to persist on the landscape." Since you have done no surveys of whitebark pine what is the basis of the "No effect" statement? Please formally consult with the FWS on the impact of the project on Whitebark pine. Since whitebark pine are very slow growing trees and take years to mature, what scientific evidence to you have to back up the following statement on page 29? "Some immature trees may be lost, but this would not result in a trend toward federal listing."

Please disclose whether you have conducted surveys in the Project area for this Project for whitebark pine, wolverines, pine martins, northern goshawk and lynx, grizzly bears as required by the Forest Plan.

The project appears to violate the best available science on road density in grizzly bear habitat. Will the project comply with the 19/19/68 standards? Please consult with the US FWS on the impact of the project before the draft ROD is

signed so the public has a chance to comment as provided by in NEPA.

Please disclose the last time the Project area was surveyed for whitebark pine, monarch butterflied, wolverines, bull trout, pine martins, northern goshawk, grizzly bears and lynx.

Please disclose how often the Project area has been surveyed for whitebark pine, bull trout, wolverines, pine martins, monarch butterflied, northern goshawks, grizzly bears and lynx.

Would the habitat be better for whitebark pine, wolverines, pine martins, bull trout, northern goshawks, grizzly bears, monarch butterflies, and lynx if roads were removed in the Project area?

Please provide us with the full BA for the bull trout, bull trout critical habitat, whitebark pine, wolverines, monarch butterflies, pine martins, northern goshawks, grizzly bears, lynx critical habitat, and lynx.

Please formally consult with the U.S. FWS on the impact of the project on bull trout, bull trout critical habitat, whitebark pine, wolverines, monarch butterflies, grizzly bears, lynx critical habitat, and lynx

Please disclose the last time the Project area was surveyed for whitebark pine, monarch butterflied, wolverines, bull trout, pine martins, northern goshawk, grizzly bears and lynx.

Please disclose how often the Project area has been surveyed for whitebark pine, bull trout, wolverines, pine martins, monarch butterflied, northern goshawks, grizzly bears and lynx.

Would the habitat be better for whitebark pine, wolverines, pine martins, bull trout, northern goshawks, grizzly bears, monarch butterflies, and lynx if roads were removed in the Project area?

Please provide us with the full BA for the bull trout, bull trout critical habitat, whitebark pine, wolverines, monarch butterflies, pine martins, northern goshawks, grizzly bears, lynx critical habitat, and lynx.

Please formally consult with the U.S. FWS on the impact of the project on bull trout, bull trout critical habitat, whitebark pine, wolverines, monarch butterflies, grizzly bears, lynx critical habitat, and lynx

The Forest Service responded:

Whitebark Pine
Whitebark pine occurs on exposed ridgetops on harsh sites, generally above 6,500 feet in the Flathead, Rocky Mountain Front, Garnet, Big Belt, Little Belt, Highwood, Big Snowy, Boulder Batholith, Elkhorn, Crazy, Castle, and Lewis Mountain Ranges. Modeled habitat indicates approximately 990,111 acres of suitable habitat within the action area. This acreage represents the greatest amount of potential whitebark pine habitat, but occupied habitat is less than this. There are 203,870 acres of occupied habitat where

whitebark pine is known to occur in the project area according to Helena-Lewis and Clark records (see map, Whitebark Pine Biological Assessment, appendix B). Whitebark pine is present in twelve mountain ranges in the project area on a variety of sites and in various species compositions. On productive sites at moderately high elevations, whitebark pine is a minor component with subalpine fir, Engelmann spruce, or lodgepole pine and exhibits an erect growth form. On high elevation, harsh, exposed sites, whitebark pine may be the only species present.

Modeled whitebark pine habitat using the Region 1 Core Area Nomination Process indicates approximately 17,648 acres (1.4 percent) within the Flathead Range; 189,858 acres (8.8 percent) within the Rocky Mountain Front; 46,570 (3.4 percent) within the Garnet Range; 92,198 acres (6 percent) within the Big Belt Mountains; 358,555 acres (14.8 percent) in the Little Belt Mountains; 2,580 acres (0.4 percent) in the Highwood Mountains; 48,274 acres (4.2 percent) in the Big Snowy Mountains; 54,333 acres (4.9 percent) in the Boulder Batholith; 84,940 acres (10.5 percent) in the Elkhorn Mountains; 56,615 acres (2.8 percent) in the Crazy Mountains; 38,514 acres (15.1 percent) in the Castle Mountains; and 26 acres (0.002 percent) in the Lewis Range. This quantity is similar to the Forest Inventory and Analysis estimate of whitebark pine for the mountain ranges (U.S. Department of Agriculture 2020) (Whitebark Pine Biological Assessment, appendix C).

Fisheries

The Project area encompasses a large, diverse geographic area. Dozens of watersheds subject to potential treatment contain one or more of the three aquatic analysis species (bull trout, westslope cutthroat trout, and western pearlshell mussel). In addition, non-native fish species of recreational importance, such as rainbow trout are widespread throughout the project area. Additional details are provided in the Fisheries Report.

Current conditions and trends indicate:

• A decline in migratory bull trout numbers on the west side of the planning area has occurred during the past several decades due primarily to changes in climate, habitat alterations from past forestry and mining practices, dewatering and unscreened diversions on private lands and invasive species.

However, bull trout are present within some headwater streams in the Divide Geographic Area and are part of a functioning population in the Blackfoot Geographic Area.

• Across the planning area, current threats to westslope cutthroat trout include the presence and expansion of nonnative species (rainbow trout, brown trout, and brook trout), habitat alterations and a changing climate. East of the Continental Divide, westslope cutthroat trout are found in isolated populations and occupy roughly 4 percent of their historical range. They remain strong in small,

isolated stream reaches though they have a low potential for long-term viability without continued monitoring and habitat restoration. Westslope cutthroat trout are listed as a Forest Service Species of Conservation Concern.Forestwide Prescribed Fire Project Environmental Assessment
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• Western pearlshell mussels are presently found in only a small percentage of historically occupied streams. Habitat threats are similar to those of one of their primary host species, westslope cutthroat trout. Western pearlshell mussel are listed as a Species of Conservation Concern species.

• Stream flow alterations occur throughout the planning area from both private and Federal water diversions and channel modifications. Flow alterations have resulted in habitat degradation leading to dewatering of critical habitats, stream alterations, and low flows during critical times.

• Historic mining has impacted streams throughout the planning area. Water quality has been degraded through delivery of acid mine drainage and sedimentation. Habitat alterations from legacy mine activities remain.

• Multiple inventoried road culverts are partial barriers or total barriers to native trout movement during some parts of the year, disrupting migration patterns of native fish. In some cases, these barriers may

be beneficial for retention of genetically pure native fish populations by creating refugia that excludes nonnative fish.
The affected environment (environmental baseline) is described in detail in the Fisheries Report for the three aquatic analysis species. Additional information for bull trout is included in the biological assessment prepared for consultation with the U.S. Fish and Wildlife Service.

REMEDY

Choose the No Action Alternative or write an EIS that fully complies with the law. Also please formally consult the the U.S. FWS on the effect of this project on listed and proposed species and white bark pine, bull trout and bull trout critical habitat.

Therefore the proposal of Individual whitebark pine trees will be maintained and improved by cutting all other species within 5 to 30 feet of outside crown edge of planted or natural white- bark pine trees is counterproductive and does not follow the best available science.

Whitebark pine seedlings, saplings and mature trees, present in subalpine forests proposed for logging and burning, would experience mortality from project activity.

Whitebark pine is fire intolerant (thin bark). Fire favors whitebark pine regeneration (through canopy opening and reducing competing vegetation) only in the presence of adequate seed source and dispersal mechanisms (Clarks Nutcracker or humans planting whitebark pine seedlings).

White pine blister rust, an introduced disease, has caused rapid mortality of whitebark pine over the last 30 to 60 years. Keane and Arno (1993) reported that 42 percent of whitebark pine in western Montana had died in the previous 20 years with 89 percent of remaining trees being infected with blister rust. The ability of whitebark pine to reproduce naturally is strongly affected by blister rust infection; the rust kills branches in the upper cone bearing crown, effectively ending seed production.

Whitebark pine seedlings and saplings are very likely present in the subalpine forests proposed for burning and logging. In the absence of fire, this naturally occurring whitebark pine regeneration would continue to function

as an important part of the subalpine ecosystem. Since 2005, rust resistant seed sources have been identified in the Northern Rockies (Mahalovich et al 2006). Due to the severity of blister rust infection within the region, natural whitebark pine regeneration in the project area is prospective rust resistant stock.

Although prescribed burning can be useful to reduce areas of high-density subalpine fir and spruce and can create favorable ecological conditions for whitebark pine regeneration and growth, in the absence of sufficient seed source for natural regeneration maintaining the viability and function of whitebark pine would not be achieved through burning. Planting of rust-resistant seedlings would likely not be sufficient to replace whitebark pine lost to fire activities.

We are aware of the failure of the CGNF to continue with a monitoring program on treatment effects on whitebark pine, a study that was established in the Cooke City Project Area.

The Forest Service acknowledged that they did not do any monitoring or surveys to determine the success of past projects to help white bark pine and the presence and

abundance of whitebark pine re-generation? If whitebark pine seedlings and saplings are present, what measures will be taken to protect them? Please include an alternative that excludes burning in the presence of whitebark pine regeneration (consider 'Daylighting' seedlings and saplings as an alternative restoration method). Will restoration efforts include planting whitebark pine? Will planted seedling be of rust- resistant stock? Is rust resistant stock available? Would enough seedlings be planted to replace whitebark pine lost to fire activities? Have white pine blister rust surveys been accomplished? What is the severity of white pine blister rust in proposed action areas?

The Forest Service's discussions of potential impacts to whitebark pine from the proposed treatments were in many respects consistent with the current best science. For example, thinning of mature whitebark pine trees could increase their vulnerability to future attacks by mountain pine beetles, as has been noted by Six et al. (2021). This effect has also been noted for lodgepole pines (Cooper et al. 2018). The agency also noted that thinning may result in "blowdown" of remaining mature whitebark pine trees, and that all mechanical and non-mechanical treatments will likely destroy an unknown number of whitebark pine seedlings and saplings. It was also noted that the effect of thinning of whitebark pine stands as per vulnerability to

White Pine Blister Rust was unknown. It was noted that the shrub Ribes, a host for White Pine Blister Rust, will potentially increase in thinned stands due to more sunlight. The agency did not reconcile this impact information with what is the expected outcomes of these impacts: is this going to improve whitebark pine stands? IN general, the agency seems to note that there will be many adverse impacts to whitebark pine even though this is claimed to be a whitebark enhancement project. This failure to reconcile these contradictions creates a NEPA/APA violation.

One factor that the agency ignored in their analysis of project impacts on whitebark pine was to estimate the number of seedlings and saplings that will be killed by this project, and how this will impact stand persistence. Clearly, regeneration is essential for stand persistence, so this failure to measure specifically how the project losses of regeneration will "improve" persistence of these stands is a clear NEPA violation. Just saying some seedlings and saplings will be killed on 3,218 acres is not a NEPA analysis as to how this mortality will impact persistence of whitebark pine stands that will be treated. An example of the required NEPA analysis for expected whitebark pine mortality was completed for the Green Union project on the Shoshone National Forest (USDA 2024). This analysis estimated that their treatments would likely kill 1,310,082 whitebark pine seedlings, 351,892 saplings, and 12,433 mature trees. The availability of regeneration (seedlings

and saplings) on treated acres has to be provided for the Cooke City Project. If this regeneration potential will be significantly reduced, this must be identified to the public and addressed as per project impacts on whitebark pine persistence. This is especially critical as the project is being proposed as enhancement of whitebark pine. Effects of the project on regeneration is an essential impact to address.

Several other impacts of the proposed enhancement of whitebark pine stands that were ignored included the severe loss of genetic diversity that this project will create on over 3,000 acres of whitebark pine in the project area. As was noted in the USFWS 2023 standing analysis on whitebark pine, seedling whitebark pine are generally 3-4 inches dbh, up to 4.5 feet tall, and up to 29 years in age. Sapling whitebark pine are over 4.5 feet tall, and up to 40 years in age. Thus the existing regeneration of whitebark pine in the treated stands will include the last 40 years of recruitment. This 40 years of genetic diversity will be severely reduced due to mortality created by the project, which we note includes 2 entries in many cases. Seedlings and saplings that survived the initial entry could easily be killed during the second entry. The agency did not define how this potentially severe loss of genetic diversity from the last 40 years will impact stand persistence. As was noted by Keane et al. (2022), retaining genetic diversity in whitebark pine stands is an important action to enhance resilience to allow forests to respond to new disturbances.

The agency also did not address the information provided in the USFWS 2023 standing analysis for whitebark pine that this tree is actually much more shade tolerant than initially believed; it was noted that these younger trees can release to increased growth even after 150 years of being repressed by shade. In effect, the whitebark pine recruitment pool does not have to be treated to allow a release of growth, as this will happen naturally when conditions are right, such as stand opening from mountain pine beetles or blister rust. So non-treatment of these whitebark pine stands will ensure that a recruitment pool remains over time, to ensure stand persistence.

The agency acknowledges that the effectiveness of whitebark pine treatments in triggering regeneration is not proven. This is consistent with Keane and Parsons (2010) who found that treated whitebark pine stands lacked any recruitment after 40 years. This study also noted that recruitment in whitebark pine stands is problematic due to a number of factors; severe site conditions can kill emerging seedlings; steep, high-mountain areas experience deep snowpack (up to 50 feet of snow), and creep of snowpack downslope can pull seedlings out of the ground; most soils are highly erosive with spring snowmelt scouring the topsoil, including washing away seedlings established in these soils, especially in burned sites; soils in disturbed

sites may require up to 40 years to stabilize enough to allow whitebark pine seedlings to become established.

It is unclear as to what extent prescribed burning will be applied to these whitebark pine "enhancement" treatments. But again, as was noted by the USFWS 2023 standing analysis, whitebark pine is highly sensitive to fire due to thin bark. In addition, as was noted by Keane et al. (2022), fire will kill whitebark pine seedlings and saplings. This paper at page 10, in discussing prescribed fire management in whitebark pine stands, notes: mechanical treatments may be enhanced by prescribed burning because, "hopefully," fire will kill most of the small and large shade-tolerant tree competitors, and leave the more fire-tolerant whitebark pine individuals. Hoping that fire isn't going to kill whitebark pine seedlings and saplings during "enhancement activities" is hardly a valid management strategy.

The agency did not address how treatments on 3,218 acres will affect site and climatic conditions for whitebark pine.

The At-risk Plants Effects Analysis for the Forest Wide Burning Project addresses some of the ongoing and expected impacts of climate change.

Forest thinning, as is proposed for all the whitebark pine forest stands in the Project Area, will increase growing season temperatures above what is occurring naturally due to reduced tree density and reduced shade, and increase the loss of spring snowpack. Trees are noted to be an important

factor in affecting forest temperatures (Millman 2024; Knoss 2016). Forest thinning will thus reduce soil moisture availability for whitebark pine, including seedlings and saplings. This adverse impact on mature and immature whitebark pine for the proposed project is never evaluated. Increasing drought stress for this tree clearly does not qualify as "habitat enhancement," the claimed purpose of many treatments, in violation of the NEPA and the ESA.

The agency fails to identify the scientific recommendations for sustaining whitebark pine forests, or to include any action alternative that would employ this strategy.

The fate of whitebark pine depends heavily upon populations of the Clark's Nutcracker (Wells 2011). This nutcracker is essential for dispersal of whitebark pine seeds (Id.). At the same time, populations of this nutcracker depend upon landscape availability of conifer seeds, especially ponderosa pine and Douglas fir (Wells 2011; USFWS 2023; Schaming 2016). Thus a land management strategy to support whitebark pine requires the provision of vast tracts of older conifer stands that will ensure adequate conifer seed availability for this nutcracker. Conifer seed production increases along with tree age and stand density (Benkman 1996). The Cooke City Project includes no such conservation strategy for the Clark's Nutcracker, or as such, for the whitebark pine, and is a violation of the NEPA as well as the ESA for failure to use the current best science

for managing at-risk species, including the threatened whitebark pine.

The HLCNF Revised Forest Plan has no conservation strategy for the Clark's Nutcracker, even though this is noted to be a Montana Species of Concern (noted in project wildlife report). It is also identified as a Priority Level III species by the Montana Partners in Flight (2000). These are species of local concern, species that may be poorly monitored by BBS, but have a need for monitoring and possibly designed conservation actions.

Claims made that clearcutting or creating openings in forest stands will increase regeneration of whitebark pine due to caching by the nutcracker are clearly false. As was noted by both Wells (2011) and the USFWS (2023), the majority of whitebark pine seeds (up to 85%) cached by nutcrackers are placed in trees. Why would a bird bury seeds for winter use in areas that will be under up to 50 feet of snow? Areas where seeds are cached on the ground include exposed ridges where snow doesn't accumulate, or at lower elevations, such as in ponderosa pine stands (Id.). Forest thinning will actually reduce caching activity of whitebark pine seeds by nutcrackers, as trees available for cache sites will be reduced.

WUI and Fire Plan

We wrote in our comments:

Did the Forest Service conduct NEPA analysis (i.e. an EA or EIS) for the Fire Plan the Forest is using for this project? To not respond to this in violation of NEPA, NFMA, and the APA.

If the Forest Service did not conduct NEPA for the Fire Plan, please immediately start that NEPA process.

Please provide a map showing the WUI and the locations of all homes in comparison to the project area.

If the Forest Service did not conduct NEPA for the Fire Plan, please disclose the cumulative effects of Forest-wide implementation of the Fire Plan in the South Plateau project EIS, or EA if you refuse to write an EIS, to avoid illegally tiering to a non-NEPA document. Specifically analyze the decision to prioritize mechanical, human-designed, somewhat arbitrary treatments as a replacement for naturally-occurring fire.

Did the Forest Service conduct ESA consultation for the Fire Plan?

The Forest Service responded:

As stated by the commentors, research indicates that a focus on the home ignition zone is key to reducing home loss. While this project will allow for maintenance treatments in wildland-urban interface areas to maintain the significant investments that have already been made in these areas, one of the new benefits of this project is the ability to focus on restoration outside of the wildland-urban interface where we will be able to use prescribed fire to restore natural fire regimes in order to reduce the severity of fire where appropriate (e.g., generally low severity fire in low-severity forest types).

The Forest Service did not answer our questions in violation of NEPA.

REMEDY

Withdraw the DDN and FONSI. The project is in violation of the Healthy Forest Restoration Act, NEPA NFMA, and the APA. Please write an EIS where the Forest Service demonstrates that the Wildland Urban Interface (WUI) follows the statuary definition of the WUI found in the Healthy Forest Treatment Act. Please change the project area to limit it to the WUI and do NEPA on the Fire plan.

We wrote the following in our comments:

Weeds

Native plants are the foundation upon which the ecosystems of the Forest are built, providing forage and shelter for all native wildlife, bird and insect species, supporting the natural processes of the landscape, and providing the context within which the public find recreational and spiritual opportunities. All these uses or values of land are hindered or lost by conversion of vegetation to invasive and noxious plants. The ecological threats posed by noxious weed infestations are so great that a former chief of the Forest Service called the invasion of noxious weeds "devastating" and a "biological disaster."

Despite implementation of Forest Service "best management practices" (BMPs), noxious weed infestation on the Forest is getting worse and noxious weeds will likely overtake native plant populations if introduced into areas that are not yet infested. The Forest Service has recognized that the effects of noxious weed invasions may be irreversible. Even if weeds are eliminated with herbicide treatment, they may be replaced by other weeds, not by native plant species.

Invasive plant species, also called noxious weeds, are one of the greatest modern threats to biodiversity on earth. Noxious weeds cause harm because they displace native plants, resulting in a loss of diversity and a change in the structure of a plant community. By removing native vegetative cover, invasive plants like knapweed may increase sediment yield and surface runoff in an ecosystem. As well knapweed may alter organic matter

distribution and nutrient through a greater ability to uptake phosphorus over some native species in grasslands. Weed colonization can alter fire behavior by increasing flammability: for example, cheatgrass, a widespread noxious weed on the Forest, cures early and leads to more frequent burning. Weed colonization can also deplete soil nutrients and change the physical structure of soils.

The Forest Service's own management activities are largely responsible for noxious weed infestations; in particular, logging, prescribed burns, and road construction and use create a risk of weed infestations. The introduction of

logging equipment into the Forest creates and exacerbates noxious weed infestations. The removal of trees through logging can also facilitate the establishment of noxious weed infestations because of soil disturbance and the reduction of canopy closure In general, noxious weeds occur in old clearcuts and forest openings, but are rare in mature and old growth forests. Roads are often the first place new invader weeds are introduced. Vehicle traffic and soil disturbances from road construction and maintenance create ideal establishment conditions for weeds. Roads also provide obvious dispersal corridors. Roadsides throughout the project area are infested with noxious weeds. Once established along roadsides, invasive plants will likely spread into adjacent grasslands and forest openings.

Prescribed burning activities within the analysis area would likely cumulatively contribute to increases to populations. As a disturbance process, fire has the potential to greatly exacerbate infestations of certain noxious weed species, depending on burn severity and habitat type (Fire Effects Information System 2004). Soil disturbance, such as that resulting from low and moderate burn severities from prescribed fire and fire suppression related disturbances (dozer lines, drop spots, etc.), provide optimum conditions for noxious weed invasion. Dry site vegetation types and road corridors are recent ground disturbance (timber management, road construction) has occurred. Units proposed for burning within project area may have closed forest service access roads (jammers) located within units.

These units have the highest potential for noxious weed infestation and exacerbation through fire activities. Please provide an alternative that eliminates units that have noxious weeds present on roads within units from fire management proposals.

Please address the ecological, social and ascetic impact of current noxious weed infestations within the project area. Include an analysis of the impact of the actions proposed by this project on the long and short term spread of current and new noxious weed infestations. What treatment methods will be used to address growing noxious weed problems? What noxious weeds are currently and historically found within the project area? Please include a map of current noxious weed

infestations which includes knapweed, Saint Johnswort, cheat grass, bull thistle, Canada thistle, hawkweed, hound's- tongue, oxeye daisy and all other Category 1, Category 2 and Category 3 weeds classified as noxious in the Montana COUNTY NOXIOUS WEED LIST. State-listed Category 2 noxious weed species yellow and orange hawkweeds are recently established (within the last 5 to 10 years) in Montana and are rapidly expanding in established areas. They can invade undisturbed areas where native plant communities are intact. These species can persist in shaded conditions and often grow underneath shrubs making eradication very difficult. Their stoloniferous (growing at the surface or below ground) habit can create dense mats that can persist and spread to densities of 3500 plants per square mile (Thomas and Dale

1975). Are yellow and orange hawkweeds present within the project area?

Please address the cumulative, direct and indirect effects of the proposed project on weed introduction, spread and persistence that includes how weed infestations have been and will be influenced by the following management actions: road construction including new permanent and temporary roads, and skid trails proposed within this project; opening and decommissioning of roads represented on forest service maps; ground disturbance and traffic on forest service template roads, mining access routes, and private roads; removal of trees through

prescribed burns. What open, gated, and decommissioned Forest Service roads within the project area proposed as haul routes have existent noxious weed populations and what methods will be used to assure that noxious weeds are not spread into the proposed action units?

Noxious weeds are not eradicated with single herbicide treatments. A onetime application may kill an individual plant but dormant seeds in the ground can still sprout after herbicide treatment. Thus, herbicides must be used on consistent, repetitive schedules to be effective.

What commitment to a long-term, consistent strategy of application is being proposed for each weed infested area

within the proposed action area? What long term monitoring of weed populations is proposed?

When areas treated with herbicides are reseeded on national forest land, they are usually reseeded with exotic grasses, not native plant species. What native plant restoration activities will be implemented in areas disturbed by the actions proposed in this project? Will disturbed areas including road corridors, skid trails, and burn units be planted or reseeded with native plant species?

The scientific and managerial consensus is that prevention is the most effective way to manage noxious weeds. The Forest Service concedes that preventing the introduction of weeds into uninfested areas is "the most critical component of a weed management program." The

Forest Service's national management strategy for noxious weeds also recommends "develop[ing] and implement[ing] forest plan standards . . . ." and recognizes that the cheapest and most effective solution is prevention. Which units within the project area currently have no noxious weed populations within their boundaries? What minimum standards are in the Helena-Lewis and Clark National Forest Plan to address noxious weed infestations? Please include an alternative in the DEIS that includes land management standards that will prevent new weed infestations by addressing the causes of weed infestation. The failure to include preventive standards violates NFMA because the Forest Service is not ensuring the protection of soils and native alternative that includes preventive measures would violate NEPA because the Forest Service would fail to consider a reasonable alternative.

Rare Plants

The ESA requires that the Forest Service conserve endangered and threatened species of plants as well as animals. In addition to plants protected under the ESA, the Forest Service identifies species for which population viability is a concern as "sensitive species" designated by the Regional Forester (FSM 2670.44). The response of each of the sensitive plant species to management activity varies by species, and in some cases, is not fully known. Local native vegetation has evolved with and is adapted to the climate, soils, and natural processes such as fire, insect and disease infestations, and windthrow. Any

management or lack of management that causes these natural processes to be altered may have impacts on native vegetation, including threatened and sensitive plants. Herbicide application – intended to eradicate invasive plants – also results in a loss of native plant diversity because herbicides kill native plants as well as invasive plants. Although native species have evolved and adapted to natural disturbance such as fire on the landscape, fires primarily occur in mid to late summer season, when annual plants have flowered and set seed. Following fall fires, perennial root-stocks remain underground and plants emerge in the spring. Spring and early summer burns could negatively impact emerging vegetation and destroy annual plant seed.

What threatened, endangered, rare and sensitive plant species and habitat are located within the proposed project area? What standards will be used to protect threatened, rare, sensitive and culturally important plant species and their habitats from the management actions proposed in this project?

The Forest Service responded:

Concern Summary: There were several concerns about the use of commercial timber operation from the proposed action and how small diameter trees would be utilized. Additional concerns were raised on the topic of mechanical vegetation treatment, which include invasives and noxious weeds, soil impacts, treatment in roadless area, use of prescribed fire only where mechanical treatments have occurred, and

calling into question the effectiveness of thinning and fuel reduction on fire behavior. Some concerns were raised related to the lack of analysis of impacts to and from forest pests. Several comments were received related to old growth; including disclosing current mature and old growth, and inventories and methodologies. Additional commentors raised concerns related to habitat typing not being used in the analysis.

We clarified in the environmental assessment that commercial activity is not typical or akin to traditional Forest Service timber sales. No road building will occur through this project, which is associated with all of our traditional timber sales, and a 10-inch diameter limit is in place. Rather, commercial activity such as post and pole sales or commercial firewood sales would be allowed to help recapture some of the high cost of implementing fuels restoration work. The impact of our restoration work doesn't change based on the contracting mechanism we use to implement the work; it simply allows us to achieve more restoration because the cost is reduced. Additional concerns were raised due to mechanical vegetation treatments. Thinning by mechanical methods may be used prior to prescribed fire activities in order to reduce risk undesirable results (e.g., high levels of forest mortality) and to allow for fire to be safely and effectively introduced. Thinning would only be utilized for smaller diameter trees in order to remove fuel ladders and

break up continuous fuel layers. Prescribed fire will be used as a stand-alone treatment where viable. Assessments would be made during the pre-treatment planning phase (see appendix C of environmental assessment) pertaining to the pre-burn treatment needs, such as thinning. The treatments of the proposed action are anticipated to reduce fuel loads and the risk of widespread tree mortality due to fire. However, the proposed treatments are not anticipated to eliminate the risk of wildfire within the treated areas. Ground-based mechanized equipment can damage the soil resource. However, activities within the project area are designed to minimize the risk of damage to the soil resource while meeting project objectives. The Helena Lewis and Clark National Forest has forest plan standards and guidelines that must be followed which help protect the soil resource and thus mycorrhizal networks. In part, soil standard 2 states that "land management activities shall not create detrimental soil conditions on more than 15 percent of an activity area". Design features and the forest plan will ensure that the risk of noxious weed introduction or spread shall be determined and appropriate mitigation measure shall be implemented. Activities within the project area shall be designed to minimize the risk of spreading invasive species and meet multiple use and ecological objectives (Helena Lewis and Clark National Forest Standards). In addition, guidelines in the Helena Lewis and Clark National Forest Plan include that during management

activities integrated pest management tools should be used to prevent the spread of and/or decrease existing infestations of state of Montana listed noxious weeds and other priority invasive species.

There is a considerable awareness today regarding the problems of noxious weed infestations on public lands. One activity that is clearly promoting noxious weeds are fuels reduction and prescribed burning projects. We cite only a few examples at this time. One example is a Joint Fire Science Report by Coop and Magee (Undated), where they note that fuels and juniper reduction treatments resulted in rapid, large and persistent increases in the frequency, richness and cover of 20 non-native plant species including cheatgrass; exotic plant expansion appeared linked to the disturbance associated with treatment activities, reduction in tree canopy, and alterations to ground cover; exotic species were much more frequently encountered at treated than control sites, occurring at 86% of sample plots in treatments and 51% of untreated sample plots; richness of exotic species in treatments was more than double that of controls. What is also interesting in this study is that cheatgrass showed a negative effect of tree canopy, which means that cheatgrass was benefited by canopy removal. They noted that models for chestgrass alone and all non- native species together indicate strong negative associations with tree canopies, indicating that increased light availability, or perhaps below-ground resources such as moisture ornitrogen, enhance colonization and growth in treatments.

Increases in exotic plant species in treatment areas was one of the reasons these researchers concluded that managers need to be cautious about implementing treatments in light of the persistent, negative ecological impacts that accompany woodland thinning in pinyon pine- juniper ecosystems; this includes an increase in fire frequency.

Prescribed burning activities within the analysis area would likely cumulatively contribute to increases to populations. As a disturbance process, fire has the potential to greatly exacerbate infestations of certain noxious weed species, depending on burn severity and habitat type (Fire Effects Information System 2004). Soil disturbance, such as that resulting from low and moderate burn severities from prescribed fire and fire suppression related disturbances (dozer lines, drop spots, etc.), provide optimum conditions for noxious weed invasion. Dry site vegetation types and road corridors are recent ground disturbance (timber management, road construction) has occurred. Units proposed for burning within project area may have closed forest service access roads (jammers) located within units.
These units have the highest potential for noxious weed infestation and exacerbation through fire activities.

The project is in violation of NEPA, NFMA, and the APA.

Remedy

Choose the No Action Alternative or withdraw the DDN and FONSI and

write an EIS that fully complies with the law

Please provide an alternative that eliminates units that have noxious weeds present on roads within units from fire management proposals. Please address the ecological, social and ascetic impact of current noxious weed infestations within the project area.

Include an analysis of the impact of the actions proposed by this project on the long and short term spread of current and new noxious weed infestations. What treatment methods will be used to address growing noxious weed problems? What noxious weeds are currently and historically found within the project area? Thank you for your attention to these concerns.

Sincerely yours,

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